

an **NOT**
official
Amstrad
publication!

**AA
M
I
S
T
R
A
A
D**

ACTION

FROM FUTURE PUBLISHING COMES THE MAGAZINE THAT LEADS THE FIELD

BRITAIN'S BEST SELLING MAGAZINE FOR THE

CPC

464

664

6128

ISSUE 55 • APRIL 1990 • £1.45



HE'S HISTORY!

Join the class of the '90s with AA's educational extravaganza

PLUS

- More superb software in the **PUBLIC DOMAIN**
- **FANTASTIC** readers' art in **GALLERY**
- **HEART RESEARCH** pioneered - on a CPC
- **ANATOMY OF AN RSX** - Win an RSX-LIB from Smogware
- **PHIL HOWARD**'s brand new **CHEAT MODE**
- And all the regular reviews, letters, hints, tips, news etc...

Fiendish Freddy's Big Top O'Fun

• Myth

• Kick Off

• Wild Streets

TAKE THE LAW ON THEM

THE FASTEST, MOST THRILLING 3D DRIVING GAME YET!

VOTED
ARCADE GAME
OF THE
YEAR

Take the wheel of your turbo-charged Porsche as you and your partner go in pursuit of dangerous criminals all driving an evil array of souped-up roadsters.

TAITO

TURBO BOOST!

Need to catch up in a hurry? Well, just one press of your Turbo Button will leave your eyes in the back of your head! **BARRELLING THROUGH THE CITY STREETS**, along the roughest of dirt tracks and through busy tunnels — if you can hold the line! The low life can run, but they can't hide ...

WITH
THE
MATCHLESS
VIGILANTES



ALL AVAILABLE FOR ATARI ST · AMIGA

Ocean Software Limited · 6 Centra
Telephone: 061 832 6633 · Telex: 6699

WELCOME TO YOUR HANDS

SIX INSPIRED

action sequences put you in control
of Elliot Ness's elite squad of crime-busters.

ALLEYWAY SHOOTOUTS, THE BORDER RAID,

The Railway Station confrontation and
Warehouse bust culminating in the
thrilling denouement of a

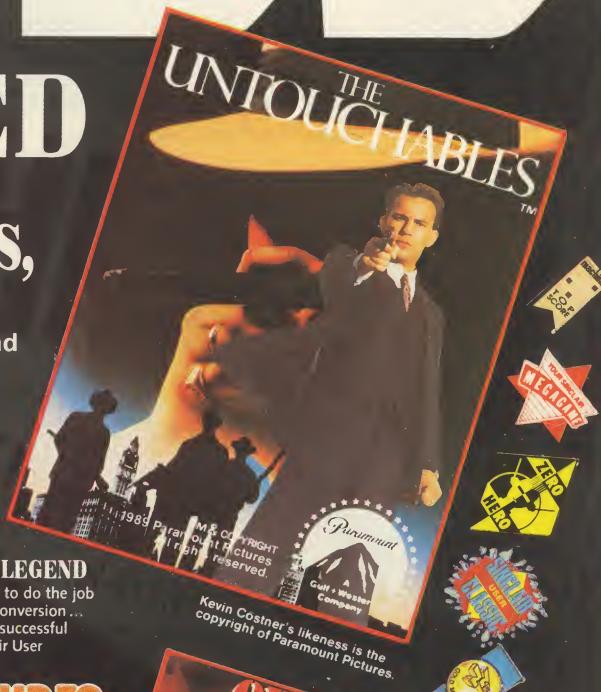
ROOFTOP DUEL

as you re-live the knife edge
existence of Ness in his struggle
against the retribution of Capone!

THE UNTOUCHABLES - LIVE AN AMERICAN LEGEND

"an absolute corker of a game...as
smooth and polished as you can get,
animation is top notch...a brilliant
film conversion" Games Machine

"a fine example of how to do the job
properly...a cracking conversion...
easily one of the most successful
licences to date" Sinclair User



BLOCKBUSTER FOLLOW-UP TO LAST CHRISTMAS'S NO. 1 HIT... OPERATION WOLF...

NOW WITH TWICE THE ACTION,
TWICE THE FUN, TWICE THE CHALLENGE

ROY ADAM IS BACK!

The Hi-jack report came from a DC10 leaving Paris for Boston - Arab
guerillas were in control of flight 102 and had turned the aircraft towards
Africa...The plane lands in hostile territory and the terrorists begin
their demands...

USE THE LASERSIGHT

or the bulletproof vest, but watch out for

AIR-TO-GROUND MISSILES

Operation Thunderbolt the incredible Taito coin-op conversion
brought NOW to your home computer.



FROM...



AMSTRAD · COMMODORE · SPECTRUM

LINE UP

AMSTRAD ACTION • APRIL 1990

FRONT END

NEWSLETTERS

7 AMSCENE

CPC found on Mars – experts baffled.

11 REACTION

Rubbish. Absolute rot. We couldn't disagree more.

14 BROADLEY SPEAKING

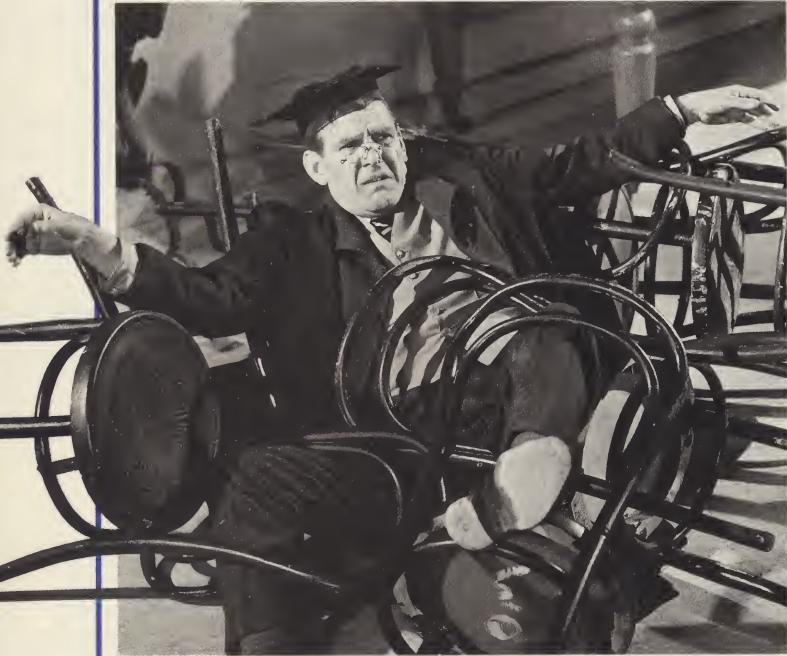
Emma teaches us all a lesson.

SERIOUS SIDE

CPC USES • HARDWARE • PROGRAMMING

16 STEADY ON CHAPS!

AA blows open the world of educational software.



Future Publishing Limited
Beauford Court, 30 Monmouth Street, Bath, Avon BA1 2AP

• 0225 442244 • Fax 0225 446019 • Editor Rod Lawton
• Technical editor Adam Waring • Games editor Trenton Webb
• Art editor Ollie Alderton • Additional design Paul Morgan
• Contributors Emma Broadley, Jerry Glenwright, Michael Gledhill, The
Balrog, David Holmes, Phil Howard • Publisher Greg Ingham • Production
Melissa Parkinson • Admin Co-ordinator James Leach • Subscriptions
Christine Stacey • 0458 74011 • Mail Order Clare Bates • 0458 74011
• Advertisements Elaine Brooks • 0225 442244 • Distribution Comag

© FUTURE PUBLISHING LTD 1990 Amstrad Action is an independent publication. The company
producing it – Future Publishing Ltd – has no connection with Amstrad plc. We cannot guarantee to
return material submitted to us, nor can we enter into personal correspondence. We take great care to
ensure that what we publish is accurate, but cannot be liable for any mistakes or misprints. No part of
this publication may be reproduced in any form without our explicit written permission.



MEMBER OF
THE AUDIT
BUREAU OF
CIRCULATIONS

35,189

January-
June
1989

THE ACTION BEGINS ON 39!

THE VERY BEST IN CPC ENTERTAINMENT

40 FIENDISH FREDDY

Mindscape goes clowning around.



42 MYTH

History in the Making from System 3.



21 FORUM

ADAM WARING sorts out another skipload of readers' problems.

26 SMALL ADS

Bargains galore!

28 FREE FOR ALL

JERRY GLENWRIGHT gets something for nothing again.

35 HELPLINE

At last – it's back!

36 CRACKING THE CODE

More machine code mangling with MICHAEL GLEDHILL.

ACTION TEST: page 39!

- Fiendish Freddy p40 ► Myth - History in the Making p42 ► Kick Off p45 ►
- Beyond the Ice Palace p47 ► Striker p47 ►
- Samurai Trilogy p48 ► Fighting Warrior p48 ► Scramble Spirits p50 ► Wild Streets p52 ► Rainbow Islands p54

Educating Arnold

Educational software? Don't make me larf - that was our reaction to the idea that the CPC had a serious educational role. We all know that it's a games machine *par excellence* and that there's many a small business running smoothly with a CPC at its heart. The educational sector, we thought, was dominated by that overpriced old relic the BBC (sorry, Beeb owners, it has to be said). Well, dominated it may be, ruled it's not. The fact is that there are oodles of educational packages out there for the CPC - they just need finding. And find them we did, as you will see when you turn to our educational round-up on page 16.

And after last month's story about CPCs and weather satellites comes one about CPCs and heart research! Trenton talks to a man who aims to revolutionise electrocardiographic diagnostic techniques. And if you thought that was a mouthful, wait 'till you see the maths...



52 WILD STREETS

Save the world with Titus.



54 RAINBOW ISLANDS

Bubble Bobble - only cuter!



30 GALLERY

Makes Renoir look like a weedy.



57 THE BALROG

The hairy fiend goes adventuring again.

60 THE HEART OF THE MACHINE

Pioneering heart research on a 6128.

62 TYPE-INS

Get those knuckles clicking.

71 ANATOMY OF AN RSX

Relocate those RSXs.

67 CHEAT MODE

Uncle Phil is here!



74 BUYERS' GUIDE

The best of everything.

78 AAFTERTHOUGHT

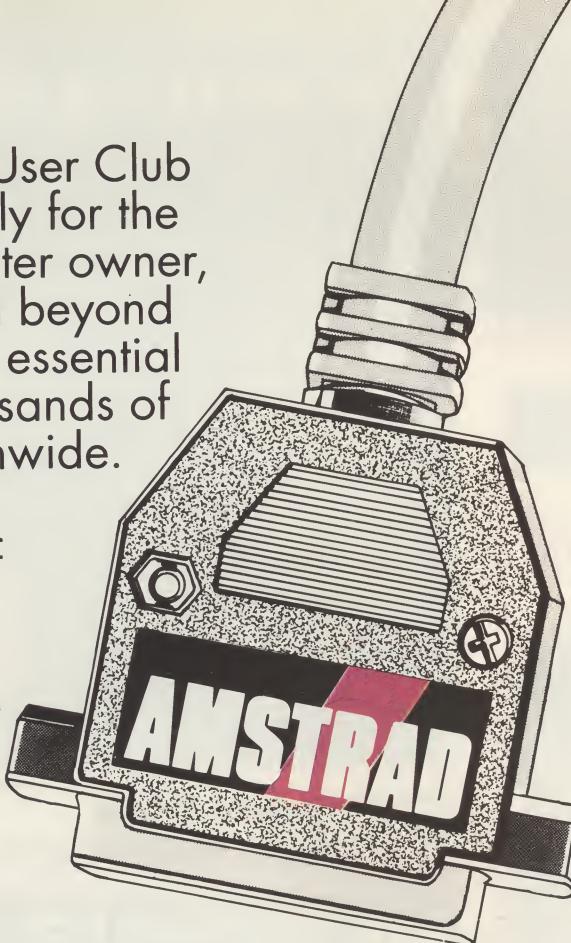
The bits we get sued for.

80 SPECIAL OFFERS

What are you missing?

The Amstrad User Club caters exclusively for the Amstrad computer owner, and has proved beyond doubt to be the essential add-on for thousands of members nationwide.

We have the widest range of software and equipment available in the UK, all generously discounted for members,



You will also receive your choice of quality free gift and 'Welcome Pack' as soon as you join and much more besides! User Club Membership costs just £27.95 a year.

For further details and our full colour brochure simply return the FREEPOST coupon (no stamp required) or ring 091 510 8787.

THE ESSENTIAL ADD ON

with a 24 hour order service, technical hotline support, monthly club newsletters and price listings and 12 issues of the official Amstrad magazine, "Amstrad Computer User" worth £15.00.



Please send me Membership details of the Amstrad User Club.

I am resident in the U.K.

Name

Address

..... Postcode.....

Day Phone Number

Machine Type

Send to:

**AMSTRAD
USER CLUB,
FREEPOST,
Sunderland
SR11BR.**

AMSTRAD
User Club

AMSCENE

releases... updates... previews... new releases... updates... previews... new

AMSTRAD'S NEW CPCS

Amstrad console confirmed, plus new enhanced 464 and 6128 models

Amstrad is still saying nothing, but Amstrad Action can now reveal that not only is the CPC console definitely on its way, top software developers almost certainly have prototypes right now.

Amstrad has a strict policy of neither confirming nor denying incipient hardware launches. The company's position on the long-rumoured CPC games console has been that "we are always considering new ideas, and that may or may not be one of them". The company has also maintained in the past that of the many projects always under consideration, only a few will ever come to fruition.

464/6128 relaunch

Nevertheless, news of a September launch has leaked out. And the surprise for CPC owners is that not only will there be – as suspected – a CPC console, there will be enhancements to the existing machines too. The details are still closely guarded, but insiders believe the existing machines will gain both the enhanced graphics and sound capabilities of the new console, as well as a cartridge port for ROM-based games.

Prices have yet to be decided upon, but most believe the console will cost in the region of £100. This will place it slightly above the Sega Master System, but the Amstrad will be backed by the formidable marketing clout of the boys from Brentwood. Although the Sega may be marginally cheaper, you can be sure the Amstrad will be in ten times as many shops. As for the new 464 and 6128 machines – expect them to cost the same as the current models.

Cartridges are likely to cost in the region of £30. Not cheap, but about the going rate for console games. The problem is really the sheer cost of cartridges rather than software development. For this reason, it's unlikely that sales of normal disk or tape-based software will be hit straight away.

However, the cartridge-based games may well take over from current full-price software in the long run. Quite simply, cartridges offer software houses the opportunity to design far 'larger' games than ever before. Each cartridge will hold between 256K and 512K, which means substantially increased gameplay, massively improved graphics/animation, full-length soundtracks and possibly all of the above!

Non-disclosure agreements

It's known that a number of major software houses have already been approached by Amstrad, and that strict non-disclosure agreements have been signed.

This is standard practice in the computing industry, and is an attempt by manufacturers to withhold details about product launches until the last possible moment, while ensuring the software support is there right from the word go. When the machine appears, we can expect to see ready-made software from the likes of Ocean, US Gold, Domark, Virgin, Activision and the half dozen other top software producers.

The new Amstrad machines are expected to make their public debut in September, probably at the Earls Court Computer Entertainment Show. AA will be there, camped out all night in front of the main doors, if necessary...



• Amstrad's mystery new CPCs: September launch planned.

BACK FROM THE BRINK

It's not been a happy eighteen months for Amstrad. In AA51 we reported that the company's profits for the past year had fallen from a massive £160 million to a mere £77 million. Now comes news that Amstrad's profits for the six-month period ending December 31st 1989 were just 30.1 million. That's 60 per cent less than for the same period the year before.

Nevertheless, it's not all doom and gloom. Many city experts were predicting worse figures than that, and Amstrad itself appears pleasantly surprised. Christmas sales went very well, and many lines actually sold out because of the company's new-found caution over stock levels.

The informed view now is that Amstrad is over the worst of its troubles, and its new, more cau-

AND ABOUT TIME TOO!

The CPC may still be the most advanced 8-bit home micro you can buy, but it was actually launched as long ago as 1984 – on the 11th of April, to be exact. Since then, the machine has sold over 2 million units in its various incarnations, most of these sales being in the UK.

And it's interesting to note that even back then Alan Sugar's company used the same launch tactics: keep everyone in the dark except a specially-selected group of software developers. It

worked then, too. The new machine was backed up by a strong software base right from the day of the launch.

But six years is a long time in computing. The CPC still isn't showing its age, but the pundits have been starting to question how much longer the machine will carry on. Particularly since Amstrad had appeared to lose interest in it entirely.

Now, though, we know better. And it's pretty obvious why Amstrad didn't push the CPC too hard over Christmas, too.



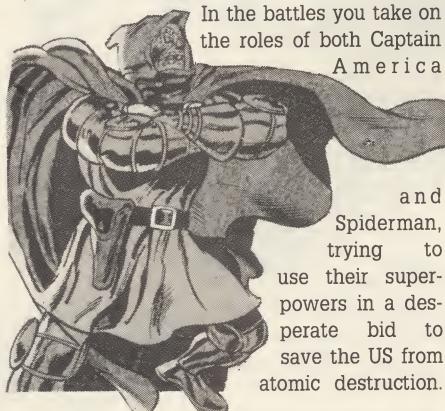
• The canny Alan Sugar, still playing his cards close to his chest.

tious, approach will continue to pay dividends. Part of its future success, of course, will depend on the new CPCs. Many people have been surprised by the continued popularity of the Z80-based CPC and PCW machines, and although Amstrad has long signalled its intention of moving more heavily into the corporate PC market, it's possible that the company has also decided to cash in on the success of its humbler models.

Certainly, the enhancements planned for the CPC will cost less to implement than the design of yet another high-powered PC, and it may well be that in the long term Amstrad's success will depend as much on the stalwarts that launched its computing era as on the latest 32-bit corporate wunderkind.

DOOM'S DAY NEARS

Dr Doom's Revenge, the superhero epic from Empire, blasts onto the CPC this month. "An interactive comic book arcade game", the machine takes care of the plot while you do the fighting!



and
Spiderman,
trying to
use their super-
powers in a des-
perate bid to
save the US from
atomic destruction.

Extra! Extra! Read all about it!

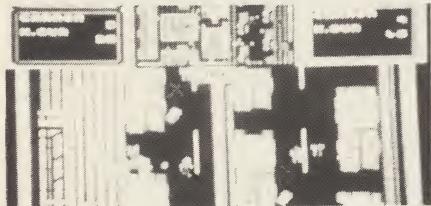
An enhancement to the low cost desktop publishing package *Page Publisher* has just been announced by SD Microsystems. *Page Publisher Extra* is a collection of new fonts and clip art that can be added to the *Page Publisher* system. The enhancement disk costs £10. A complete package consisting of the *Page Publisher* package and the *Extra* disk is available for £29.95, a saving of £5 over buying the items individually.

The SD Microsystems newsdesk is at PO Box 24, Hitchin, Herts. SG4 0AE. Tel: 0462 422897.

A good crack

Crackdown, the new arcade licence from US Gold, will be on the streets any day now. It allows you to take on the evil Dr K and his army of biogenetically-engineered humanoids and simply blow his fortress to smithereens. In the guise of either Ben Breaker or Andy Attacker, you'll have to break in and plant three bombs on each of the 16 levels to stop the mad, bad doctor.

It plays in the *Gauntlet* overhead style, with each of the two players able to roam around on their own screen planting bombs and shooting villains by the score. You can pick special weapons – even superbombs – to help the kill ratio as you weave around between flows of lava, junkyards and the perilous rooftops. AA should be able to get cracking on the review next month.



The graphics look set to capture the true Marvel flavour as you are taken through a series of deadly duels against all the best super villainy has to offer: Rhino, Hobgoblin, Batroc and Dr Doom himself, to name but a few.

Meanwhile, controversy rages in the AA offices. Trenton reckons that DC Comic characters are "a bunch of spineless wimps", while Art Ed Ollie insists that Marvel superheros are a "bunch of fat, mindless thugs". Adam Waring is 94.

AA will have the full review of *Doctor Doom* as soon as we've finished the free comic that comes in the box!



DR. DOOM'S REVENGE!

Last Vendetta IV

System 3 has begun a Vendetta. Its latest arcade adventure takes you on the hunt for some rather nasty terrorists who've framed you and kidnapped your family. The aim is to hunt down the bad guys, collecting evidence as you go and hurting as many people as possible in the process.

Set in a 3D world (much like *Last Ninja II*), each level is composed of an adventure section followed by a driving challenge that takes you to the next level. The car sections influence the outcome, so a sharp eye for bends will be needed as much as sharp reflexes for the fighting. The Vendetta should be beginning soon. Very soon.



Alternative gets Tanked up

Budget licence specialist Alternative has made public its latest coup – *Thomas the Tank Engine*.

The little chuffer has been signed to appear soon on a CPC near you. All the rolling stock from the books and TV series will be there – Percy, James, Henry etc – and the fat controller is reported to be over the moon at the prospect of it all.

The game will feature the famous TV theme tune and will offer variable degrees of difficulty so that both young and old can



play. Barring timetable disasters, Thomas and friends should be arriving at the AA platform soon.

Monty's back!

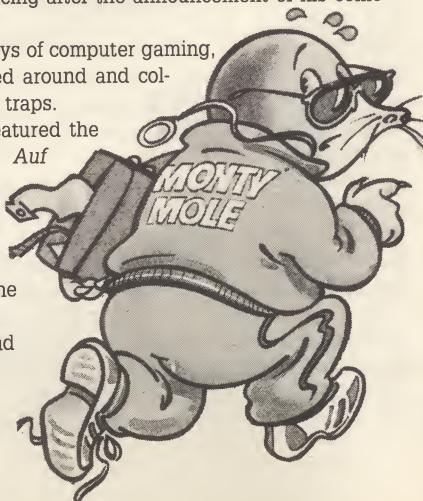
After four years of mourning Monty Mole, fans are rejoicing after the announcement of his come-back.

One of the most successful characters in the early days of computer gaming, Monty's speciality was platform adventures. You rushed around and collecting teapots and other useful items, all while avoiding traps.

Renowned classics (speak for yourself – ed) that featured the cutest insectivore included *Monty on the Run* and *Auf Wiedersehen Monty*.

His success was unprecedented and his fame still lingers on, even though his last full-price debut was way back in 1987. Gremlin has finally succumbed to the pressure and will "take him into the 1990s with all the glory and pizazz he was given in the '80s".

Merchandised to death with T-shirts, sweatshirts and badges, the poor little digger's ultimate aim is, apparently, his own cartoon series!



FUTURE'S AWARDS

Future Publishing, the company which produces *Amstrad Action*, has thrown its weight behind the new *European Computer Leisure Awards* for products developed in both Britain and Europe.

Future has joined forces with the giant US computer magazine publisher Compute Inc and nine other market-leading titles in Europe to thrash out the wheat from the software chaff.

The first stage will involve a national panel of journalists sitting to decide the best product in each of the respective categories (software publisher of the year, game of the year etc). These winners will then be compared with their continental counterparts, with an overall winner being announced on the first night of the *European Computer Trade Show*.

The ceremony will be an oscar style affair and the awards should carry considerable kudos; the one authoritative voice of the European computer press backed by the leading computing trade body ELSPA. Who won what will be revealed on April 1, and AA- Future's first title - will be there to get the facts.



WAVE those upgrades goodbye

Potential upgraders from 464 to 6128 spec will no doubt be aware that 6128 ROM chips have been withdrawn by Locomotive Software.

Following licensing revelations, the ROMs have been withdrawn from sale as individual items to upgraders, and now can only be bought as direct replacements for faulty 6128 ROMs (see *Amstrad Action* AA53).

Well, the saga continued last month when we reported that WAVE, a major supplier of upgrades, had secured a thousand of these ROMs... It now transpires that there has been such a high demand for these silicon upgrades that WAVE is running out.

Mark Ralph, a spokesman for the firm, explains: "Although we purchased a large quantity of these 6128 ROMs, stocks are beginning to run dry. We have around 150 left, and after those have gone we will not be able to obtain any more."

So, if you want to beef up your 464 then do it now before it's too late! WAVE's address is 1 Buccleuch Street, Barrow-in-Furness, Cumbria, LA14 1SR. Tel: 0229 870000.



Snowed under

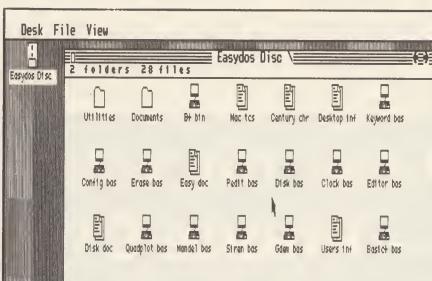
Mike Worsley, the writer behind last month's *Out of this World* piece, has certainly captured the imagination of AA readers. The Weather Satellites feature proved so popular that Mike received over 60 inquiries within a week of the magazine hitting the streets. He told us that if those who wrote in can hang on just a little longer, all those enquiries will be answered.



Wild Man found in Withernsea

We have been inundated with requests for the whereabouts of David Wild, proprietor of D W Software, whose public domain programs - including the startling ST-style desktop emulator *Desk* - were featured in last month's *Free for all PD round-up*.

Well, here's what you wanted to know. Details of David's crucial PD collection can be obtained from DW Software, 62 Lascelles Avenue, Withernsea, North Humberside. HU19 2EB. Tel: 0964 612070.



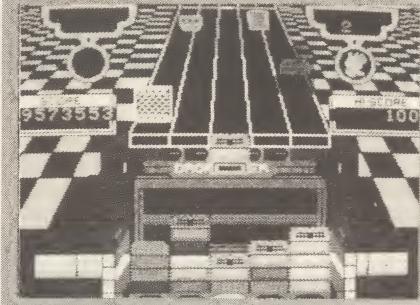
Tic-Tac-Tiles!

Domark continues to assert itself as one of the country's leading arcade converters with the imminent release of *Klax*.

The arcade machine is due to be launched simultaneously with the home computer versions, allowing you to bone up at home before spending any cash in the arcades. This is the first time the arcade and leisure industries have co-operated in this fashion.

Based on the Atari/Tengen coin-op, the game is one of stunning simplicity and addictiveness. It involves manipulating shapes as they roll towards you, trying to line them up in a pre-set pattern. It's a cross between noughts and crosses and the Russian classic Tetris.

The rolling shapes, if collected in the right pattern, score a Klax, but if too many fall then you're out and it's game over. This Tic-Tac-Tile game is due for release on April 12, but AA will be trying to get its hands a review copy ASAP.



Little Puffs at Codemasters

Codemasters has absolutely bucketloads of new product that should just about be reaching the shops by the time you read this:

On Codemasters' new (-ish) Cartoon Time label is *Little Puff*, the sorry tale of a baby dragon trying to find his way in the big, wide world.

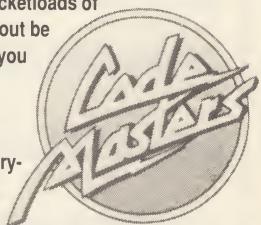
And the sequel to the top-selling *Super Stuntman* is also due to hit the streets. Entitled *Italian Supercar*, the game features high-speed daredevil exploits in a Lamborghini sports car (they borrowed mine for the artwork - ed).

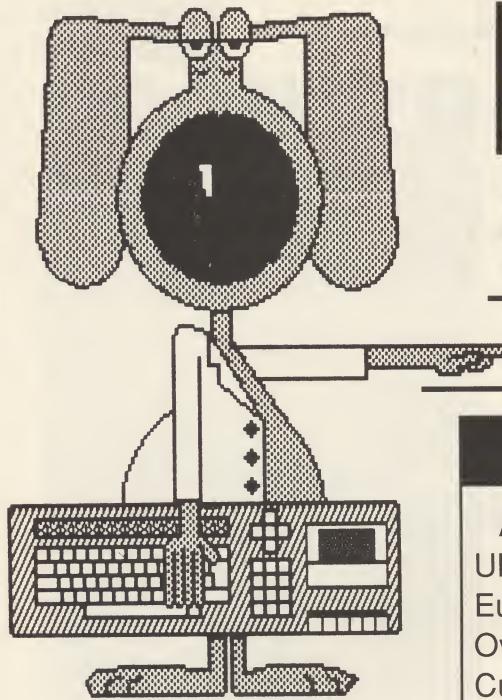
Previous full-price seller *Rock Star Ate My Hamster* is being re-offered in the Codemasters budget range.

The game puts you in the shoes of a record tycoon, and your objective is simply to promote your pop group and make as much dosh as possible. The game provides an amusing insight into the music industry, and plays hundreds of combinations of musical tunes that actually improve as your band improves.

Finally, in *Bounty Hunter* you don your ten-gallon hat and six-shooter, for a Wild West romp.

All the above games will retail at £2.99. Look out for reviews next issue. In the meantime, you'll find Codemasters at: Lower Farm House, Stoneythorpe, Southam, Warwickshire CV33 0DL. Tel 0926 814132.





WACCI

unbeatable value, unbeatable service

THE FANZINE

ANNUAL SUBSCRIPTION RATES

UK.....	£18.00
Europe	£27.00
Overseas	£36.00
Current issue	£1.50

- * Fully illustrated
- * Over 20,000 words per month
- * Proper A4 format

Letters, Basic, Comms, Mode, Hardware projects and much more.

A truly
Alternative
Fanzine

THE LOWEST PRICES ANYWHERE !

VIDI-CPC digitiser NOW ONLY	£59.95
Rombo Rom Box NOW ONLY.....	£27.00
CASPELL RIBBON REFRESHER	£7.95
5 x Amsoft quality discs	£11.95
10 x Amsoft quality discs	£22.95
DMP2000 printer ribbons (each)	£2.90

THE PUBLIC DOMAIN SOFTWARE

CPM DISC 1 – MACHINE CODE TOOLS

Price £6.50

Z80 and 8080 assemblers, Z80 to 8080 to Z80 code translator, Debugging monitor and assembler, Reverse assembler, Binary file comparer, plus NewSweep and more.

CPM DISC 2 – COMPUTER LANGUAGES

Price £6.50

Small-C, Prolog, Lisp, EBasic, Small-C-Interpreter plus NewSweep.

CPM DISC 3 – FILE AND DISC MANAGEMENT

Price £6.50

Library utilities, Disc quality checker, Unix GREP command, PCW disc reader, Disc sector editor, Text file sorter, Word counter, plus NewSweep and more.

CPM DISC 4 – AT YOUR LEISURE

Price £6.50

Cave Adventure, Chess, Othello, Golf, Word search, Biorhythms, Maze generator, On-screen calculator, Prolog, Comms utility, plus NewSweep and more.

CPM DISC 5 – THE BUSINESS

Price £6.50

Scrivener spreadsheet, Inventory database, Powerful text editor, Spelling checker with dictionary, Sorter, Word counter, Comms utility, plus NewSweep and more.

CPM DISC 6 and 7 – PASCAL PLUS (Two Discs)

Price £10.00

Pascal, SCI, Cobol, EBasic, Powerful text editor, plus NewSweep.

CPM DISC 8 – MORE COMPUTER LANGUAGES

Price £6.50

Forth, Stoic, Cobol, Expert 86, Powerful text editor, plus NewSweep

CPM DISC 9 – COMMUNICATIONS

Price £6.50

Mex, Kermit, Kemode, Interface and Smart-Modem, overlays, source code, plus NewSweep and more.

PLUS * PLUS * PLUS * PLUS * PLUS

Public Domain software support available to WACCI subscribers.

Mega-big homegrown library

Send £1.50 for full catalogue and details (E and OE).

THE SPECIAL OFFERS



Advanced OCP Art Studio - £18.95

OCP Art Studio - £15.95

The Advanced Art Studio, bundled together with the Genius Mouse, Interface and Mouse Mat - £49.95

(£39.95 without the Advanced Art Studio Pack)
M.G.T. 3 1/2" Lifetime Disk Drive £99.95

	DISC	ROM
Protext (CP/M+)	47.00	--
Protext.....	21.00	31.00
Pocket Protext (CP/M+)	23.25	--
Prospell	19.50	27.25
Promerge	19.50	--
Promerge Plus	--	27.25
Protext Office	27.25	--
Protext Filer.....	19.50	--
Maxam	21.00	31.00
Maxam 1.5	--	23.25
Utopia.....	--	23.25
Arnor C (CP/M+)	39.00	--

MasterCalc 128	24.95
MasterFile III	29.95
MasterCalc AND masterFile.....	49.95
Ram Delta Joystick	6.99
Kador Seal 'n' Type Keyboard covers (6128) ..	7.95

WACCI UK, 9 SOUTH CLOSE, TWICKENHAM, MIDDX TW2 5JE
Est. 1986 — Phone 01-898 1090

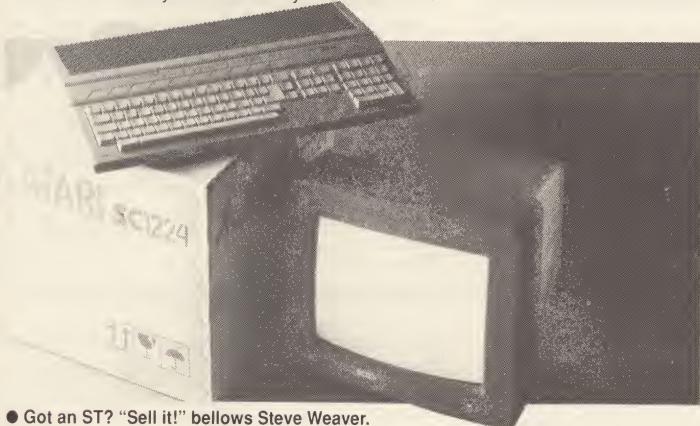
REACTION

Both praise and polemic from our righteous readers...

● Born again CPC-er

About five years ago I received a brand, spanking new Amstrad CPC464 for my birthday, complete with "free £100 worth of software" (anyone want to buy a copy of *Roland in the Caves?* Please?). Deep joy. This was definitely The Business.

A slight tinge of regret in having to dispose of my faithful Dragon 32 soon faded as I sat hunched over my Amstrad keyboard into the



● Got an ST? "Sell it!" bellows Steve Weaver.

dark hours of the early morning. I'm not a computer addict, I sometimes didn't touch Arnold for days on end, and after five years I've still less than three hundred games, but I'm not jealous of those who religiously buy every new film or TV licence. What I've bought are the programs that I have played and decided I'd like to own. Any program without lasting appeal doesn't get a look-in.

My programs range from classics like *Protext* on ROM (luv it, luv it!), *Tomahawk* (definitely the best flight sim I've played on the 464 – *Gunship* doesn't even come into it), *Get Dexter*, *Driller* and *Elite* to budget games like the *Magic Knight* series (hands up who remembers *Knight Time*, the first budget AA Mastergame?).

Anyway, two years ago I bought an Atari 520STFM. The idea being to upgrade and keep abreast of the computer scene, as I'm sure many others did and still do. Oh, the ease of use, the luxuriant speed of the drive, the graphic excellence, the sophisticated software and the challenging games. I was most definitely hooked.

Well in that case, how come I am sitting down in front of my Arnold, with the Atari carefully packed away in a cardboard box waiting for me to get around to selling it to finance Arnold's new drive, a subscription to AA, 128K memory expansion and an 8-bit printer port (so my DMP 2160 won't feel left out)?

Whatever happened to the fun in computing? I just got so well and truly cheezed off with the way that the 16-bit magazines appear to try to make you feel so small if you don't

own at least the top of the range model. Do we really need to know about laser printers costing x thousand pounds, DTP programs costing more than the entire system? There I was with a 512K machine, built-in drive, 9-pin printer and still being treated like a second-class citizen.

I came close to totally losing all interest in computing and bringing my fishing rods out of retirement. It was while rooting around in the cupboard upstairs that I came across an ancient dust-encrusted tome, the fabled AA no2 (sorry, I never did buy no 1). I spent the next couple of hours running around, finding all the old programs, dusting down the machine, and popping out to buy the latest issue of AA. I was very surprised in the changes since I'd last bought your magazine, but not disappointed, I hasten to add.

Anyway, I am now firmly re-united with my trusty 464 and my trusty AA. Sorry for breaking with the faith, but I'm back with the programme now and shall be staying with it as long as my Viper can still dock at a Coriolis Station.

● Fading away

Come on, help me! I have written to you before (o, er... have you? – ed), yes, I have you know. I love my Amstrad, it's much better than the Commodore and Speccy. But, although it's virtually brand new, the letters on the keys are *fading*! Yes, fading. How come? Aren't they supposed to stay on? Let's be more precise, the letter (it's not letters – yet) is the letter "p". Please, please, please (it could be typing "please" too much – ed) tell me where I can possibly get something to print over it and to keep it there or anything else that will work. Print this and I'll keep buying AA!

(*Ok, right, well what you nee...*) As well as that, are there any books that can be of help to beginners, since the manual is "well 'ard" to understand. If so – what? Please answer and reply. Keep up this brilliant, utterly mega mag.

Another word in your ear (if you must) – why can't you sometimes put disks on the

Thanks, AA, thanks for making me realise just how much fun computing can be again, even if you don't have megabytes and hard disks coming out of your ears.

Don't upgrade just because you think you're getting left behind. Think carefully about what you want and why you want it. If a machine has dedicated users, like the CPC does, its death is not a foregone conclusion. The CPC is in a unique position. Let's face it, although there may not be as many of us as there are C64 and Spectrum users, look at the versatility and potential we have at our fingertips compared to them. We should all make our feelings known to Amstrad on the future of the CPC. Production obviously will not go on forever, but support can if it is profitable to Amstrad. Perhaps AA can organise a petition to show the strength of feeling there is at Amstrad's cavalier attitude? Or am I just getting old and sentimental.

Long live the CPCs – long live AA – long live the users!

Steve Weaver (a world-weary 22)

AA: Amstrad isn't likely to be swayed by petitions, Steve, just hard cash. And the fact is that the CPC makes money. As long as it continues to make money, Amstrad will continue to make it.

● Pirate ahoy!

The CPC is a popular computer here in Western Australia. C64s are just as common, if

cover. I know it is expensive – well maybe a little – but it would be nice for 6128 owners like myself, or special occasions.

Kevin Ho
Aylesbury

AA: If your "p" disa ears com letely you have several choices. You could redefine one of the lesser-used keys such as f0 to produce the letter " ", or you simply examine every letter on the keyboard to find out which one hasn't got any ink on it each time you want ...

Sorry, we're being facetious. All we can suggest is that you either use a marker pen to draw the letter in, or try to find a Letraset kit with the right-sized letters. You could always try to get hold of a replacement key, but that's going a bit far.

No, we can't put disks on the cover. Yes, it is too expensive.

not more so, but the law remains: to own any other computer than a CPC, Amiga or Atari ST is blasphemy of the highest order. CPC software is expensive but still common, and recommended by all but Commodore – sorry, Commodore – dealers.

To describe the W.A piracy situation – the copying of games and giving the copies to friends comes into the same area as the copying of audio tapes, which seems to be a rarely enforced law. My own set of second-hand software includes 22 disks, 63 games, 2 art programs etc etc. End of the exposé of the unabated flow of piracy in W.A. Imagine what it's like in America.

The pirates that do cop it are the ones who copy games and then sell them at reduced prices. But the situation is the software houses' fault because of the huge prices. But one thing's certain – if FAST goes international, a lot of people are in a lot of trouble.

Murray Christian
Perth
Australia

AA: Including you, chum.

● Oh, Brother

I have got a used Brother M-1109 printer to use with my CPC6128, but unfortunately when I bought it the owner was unable to give me a user manual for it. Please could you give me Brother's address and phone number so I can write to them and order one – or is there a M-1109 owner willing to sell me their manual?

Mr BS Matharu
Birmingham

AA: Write to Brother at Shepley Street, Audenshaw, Manchester M34 5JD (061 330 6531). Alternatively, any Good Samaritans out there with an unwanted manual can get in touch via AA.

● Printer plea

Please, please, please... (it goes on like this for a while)... please can you help me? I have just bought an Amstrad DMP1 printer but it didn't have a manual. Please could you tell me where I can get hold of a manual?

David Alexander Jnr
Ballinderry
Fife

AA: No, but we know a man who can. Or rather we know of 35,000 readers who might be able to. Anyone out there got a DMP1 manual they don't want?

● BASIC information

Last May I bought an Amstrad CPC464. But a friend told me I should have got a programming manual with it. I don't know whether or not I should have done, but now I want to start programming and I don't know where to begin. I tried looking in shops all around me but I couldn't find an Amstrad manual for beginners.

Ashley Britnell
Dumfries

● Type-In tapes?

It seems to me that the only area in AA that could be drastically improved upon is the Type-Ins section. When a reader types in a program, the chances are that the program in question won't work the first time run. Commonly it's only a typing error, but sometimes it is the magazine listing that is wrong. Also, looking back over older issues, it has been said that the AA covertapes, though excellent in content, are few and far between.

My idea is this: why doesn't AA start its own PD library? All the type-ins you receive that work could be put into the library, thus ensuring 100% reliability and 0% disappointment.

Playable demos for more games could be available, if reading the review isn't enough to convince a reader to buy a game.

In the recent article on PD software, something to the effect of "PD programs are not well documented" was said. Documentation could be provided in the magazine. So if a CPC user who didn't read AA sent off for software, he/she wouldn't be able to use the program. If this didn't work,

a password system could be used, enabling only AA readers to benefit from such a service. I'm sure that most readers wouldn't mind a small increase in the cost of AA if it meant access to a library of ever-increasing programs and demos. I hope you consider this idea.

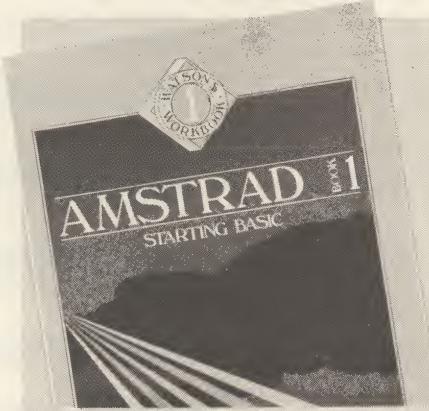
Jameel Syed
Edgware
Middlesex

AA: We try to minimise the possibility of readers typing in listings incorrectly by printing the Typewriter program occasionally. This prints out a code for each line of BASIC which lets you compare your line to the one in the magazine to see if you've typed it correctly. All the listings we print are checked first, so if you've got Typewriter it's hard to see how you can go wrong.

As for AA setting up and running its own PD library, it's not something we've considered before. We'll have a discussion about it down at the pub... er, I mean in the Boardroom and see what we come up with...

AA: Try Amstrad: Starting BASIC, by Sean Gray and Eddy Maddix and published by Glentop, ISBN no 0 907792 39 1.

If you can't find it in a local bookshop you can get it directly from the publishers: Glentop Publishers Ltd, Standfast House, Bath Place, High Street, Barnet, Herts EN5 1ED (01 441 4130).



● Want to learn all about programming? Well then look no further...

● More lines in your listings?

I am writing to reply to your request for brainwaves to transform the totally brilliant CPC. How about a scanner that reads in a bar code? I bet you're saying "What's the use of a scanner on a CPC?" Well, it could read in programs and automatically type them in (a life-saver for people with keyboard cramp). So twist somebody's arm and get it made (e.g. Adam Waring, Alan Sugar, Romantic Robot etc.)

Andrew Palmer
Great Yarmouth

AA: It sounded a great idea at first, until we carried out some quick, back-of-an-envelope calculations...

The trouble is, a type-in would take up between five and ten times as much space on the page and look incredibly boring.

● Out to grass

I am a widower pensioner and derive great joy from tapping your type-ins into my CPC464 and seeing them work. Let us have lots more – the longer the better.

However, due to my great age (three score and ten), no doubt, my reactions are not as fast as most of your young readers and, having successfully typed in *Lawn Mower Simulator* from the January issue of AA, I find that the wretched machine runs away with me and crashes before I have half-cut the ruddy lawn. As I would so much like to see the other two gardens, is there any way I can alter the listing to slow the beggar down?

Frank James
Chatham

AA: Try adding the following line:

495 FOR xx=1 TO 100:NEXT

This is just a simple FOR:NEXT loop which can be fine-tuned by changing the 100 either up or down – e.g. to 500 or 50 – for lower or higher speed respectively.

● Don't panic!

Are all our computer programs, games, accounts, datafiles etc going to be useless after 1993 when the new Television Channel 5 starts transmitting? I understand that they

have been allocated channels 35 and 37 therefore wrecking channel 36 on which computers are tuned.

If this is the case then surely whoever takes up the Channel 5 franchise should be expected to pay for the re-tuning of the nation's computers?

Do any of your staff or any readers know anything about this matter? Is there any reason that Channel 5 should be allocated these two channels instead of other channels?

Laurie Mash
Wakefield

AA: No, no, no and no. First of all, only a small percentage of computer users will use a TV instead of a monitor. And out of those, most would be likely to unplug the aerial first. There may be some interference from neighbouring channels even with the aerial taken out, but unless you live in a sleeping bag shackled to the mast of your local TV transmitter, it's hard to see it having any effect whatsoever.

HOWEVER – we could be wrong. Anyone else have any ideas...?

● New fanzine

I am the editor of a brand new CPC fanzine, called *Amstrad CPC Monthly*. It costs 20p (plus a large SAE and a 26p stamp) and is packed with reviews, previews, type-ins, cheats and much more. Also, we need contributors for our type-ins and cheat pages. We hope you enjoy reading it!

Glen Scott
17 Heather Gardens
Belton
Great Yarmouth
Norfolk NR31 9PP

AA: So do we. How about sending us a copy?

● Mr Glum

Three years ago I started purchasing your magazine, in the hope that I might learn to use my 464 to my advantage. I found that I got more knowledge from your excellent Type-Ins than I got from other sources. Some of the programs have been a real boon to me – the last I used was *The Home Accountant*; it is the most useful prog I have managed to make sense of so far. By trial and error I have acquired other little bits of useful information, and did so look forward to the monthly Type-Ins. Then all of a sudden there seemed to be nothing but errors in both the printing and the progs themselves, some taking me literally hours to type in, only to find something was wrong. I tried getting other people to recheck my input typing, but even when this was found to be correct the progs wouldn't run correctly. For this reason I stopped buying the magazine.

I then saw your Christmas issue and decided to give it another try. I shouldn't have bothered. Firstly, the type-ins are all games and of little interest to myself, who are trying to make a serious use of our CPCs. Secondly, to cap it all, on running the word processor and trying to boot the user information, I find this will not



● AA52: Just too much fun, says Mr. Kimmings.

work at all. There are even several mistakes in the wording of the Garbage section. Taking into account that there is a hell of a lot of work involved in producing both the magazine and the cassette, surely these cannot have been carefully checked prior to production. I am not even going to bother to send the cassette back, it's a waste of postage. And depending on your reply, I intend to withhold purchasing the magazine; at the same time passing on my thoughts to others I know who will I feel sure agree with me. We are not all in a position to throw away money which is now so hard to come by.

Your own comments would be greatly appreciated.

Peter Dean-Kimmings R.D.

● Money to burn?

I'm writing from the depths of France to comment on the letter from David Meredith in AA February. In it he describes how a little metal strip got detached from the front of his Canon PW1080A. I was impressed by his accurate description of the problem. I did exactly the same myself. What David failed to mention was that he did it by trying to wind sticky labels BACKWARDS! He also failed to mention that the "little strip" is a strip of spring steel spot welded along the full length of the platen.

When it happened to me, it never occurred to me to try to get it repaired as it was obvious that any repair must involve replacing the entire platen and that such a course must be pricey. The printer still works OK without the strip, although a little noisier. If David is able to spot weld spring steel to a platen, then I'll gladly send him my platen and he can fix mine too – if we can get the strip on its own, which I doubt. It would after all be expecting a car manufacturer to sell you a new element for a headlamp bulb, wouldn't it?

I'm all in favour of criticising manufacturers when they give bad service, but I think

AA: Our comments? Withhold your purchase by all means, since you don't seem to derive much pleasure from any of AA's many other features – up-to-the-minute game reviews, product evaluation, hints, tips, letters, features, surveys etc etc. We are heartily sorry for any mistakes that occur in Type-Ins, but we do our best, you know. The Christmas edition featured games heavily because it is the season to make merry after all! As for being dissatisfied with our cover cassette offerings – we rely on readers' contributions, so if you think you can do better, you know what to do!

● Getting on the right track

I own an Amstrad 464 and would be pleased if you could inform me whether there are any computer games or simulations relating to British Railways?

P Windle
Newcastle-upon-Tyne

AA: Oh, er, let's see now. BRSoft were to be producing an HST sim in 1985, but it still hasn't turned up... um, Southern Region was a package that crashed every time the weather turned bad... er, Fare Cop was an arcade adventure where you had to try to get your ticket punched before the price went up...

OK, seriously now, we don't know of any commercially-available train sims relating specifically to British Rail. There may be some home-grown software out there somewhere, though, so if anyone knows of any, please get in touch.

David is unduly harsh on Canon. Lastly, he says that he doesn't want to pay another £400 on a new one. Crumbs, I've just ordered a new 24-pin 192cps printer for £300! I dare say I can flog my old Canon for £30. I don't reckon 270 quid for 5 years' service is such a bad deal.

Ian Hoare
Ex-Editor *Amster's Cage*

AA: You what? Let's see if we've got this straight. Your Canon's spot-welded platen strip came off just because you tried to wind sticky labels backwards, and you think we're being too harsh on Canon? Might the manufacturer not consider a polite notice – "WARNING: Winding sticky labels backwards will leave you with an expensive repair"? And as for thinking £270 over five years (90% depreciation!) is OK, we think you must be absolutely bonkers! Your analogy about car headlamp bulbs is highly dodgy too – if bulbs cost £300 each we damned well would expect to be able to buy the filaments on their own! (calm down – ed)

BROADLEY SPEAKING

EMMA BROADLEY gets excited over the new CPCs, and gets some of flak over her ST comments...

At last! Amstrad looks like it's committing itself properly to the CPC. What am I talking about? This month's – this year's – red-hot news about the CPC console.

Mind you, it's not really the console news that excites me as much as the talk of enhancements to the rest of the range. Amstrad is being its usual cagey self and saying nothing about the new machines – or even admitting its existence – so any speculation is bound to be just that.

Amstrad is in an awkward position, of course. Like any other company releasing important new hardware, it has to keep details quiet right up until the day of the launch to preserve maximum marketing effect, but it also has to deliver development machinery to all the major software producers well in advance so that there is some software out there when the machine is launched.

For this reason, all the software developers approached by Amstrad will have had to sign a very rigorous non-disclosure agreement, which means that they have to tow the official Amstrad line – to the point where they don't even admit the hardware's existence.

Hardware enhancements aside, perhaps the best news of all for CPC owners is the very fact that Amstrad had taken this step. The CPC's problem has never been its technical specifications, more its image in the industry. This has been true particularly over the last couple of years, when Amstrad have marketed the machine with what has amounted to near-indifference. Hardly surprising, therefore, that major software developers have been unwilling to commit themselves fully to the format.

This has hit the CPC particularly badly in the field of business software, where decent powerful software can take a year or more to develop – and from Amstrad's general air of indifference, most developers could be forgiven for thinking the machine hadn't got that long to go!

Well all that's set to change – and about time too.

My machine's better etc...

It looks like I stirred up a real hornets' nest with my comments about the Atari ST and upgrading. Here's just one of the many letters I received; it's from Michael Kirk, of Stevenage.

"I am the proud owner of an Atari 1040 ST, and my father has an Amstrad CPC 6128. That is how I came to read your column in the March edition of AA where the ST was being severely slagged off.

"I agree in that the CPC is a fantastic computer, for an 8-bit. But what are you saying about games not being as good on the ST as they are on the CPC? Have you seen *Hard Drivin'* running on an ST – fast – considering the CPC version is sluggish and is a direct Speccy port!

"So what if you have to load BASIC into the computer before you use it? With a fast disk drive like the ST has you hardly notice it, with a hard disk it may as well be on ROM! I ask you this, can you get anything like STOS on the CPC? The answer is no. Why? I'll tell you why. Because the computer is too slow and does not have enough memory. Plus why bother making a STOS for the CPC? People wouldn't buy it because they couldn't be bothered, because they have the wonderfully slow and awkward CPC BASIC. Don't you just hate the stupid way you delete disk files? With GEM on the ST you can just pick up the file with the mouse and put it in the trash-can icon.

LEARNING A LESSON

Reading this month's article on educational software was a bit of an eye-opener for me. I must admit, I never realised that so much was available. What strikes me most of all, though, is the marketing potential. (Am I just getting to be a cynical, profit-motivated entrepreneur, I wonder – you would tell me, wouldn't you?) I mean, here we are with hundreds of educational packages sitting on warehouse shelves, and hundreds of thousands of

CPC owners out there studying at schools and colleges who don't know anything about them! The success of *Fun School II* shows the popular appeal of well-designed educational packages, while some of the subject-specific packages the lads on AA unearthed would surely sell ten times as many if only people knew about them.

Educational software should be on the shelves in retailers, not piled up in warehouses.

Broadley Brickbats

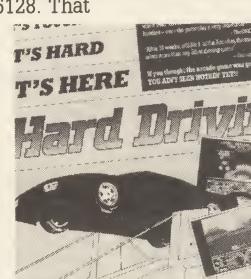
What absolute and utter codswallop! This woman has no grasp of reality whatsoever! She simply hasn't got the faintest idea what she's talking about...

Is that what you think? Well don't just sit there fuming, write in and tell her! (We're damned if we will.)

BROADLEY BRICKBATS
Amstrad Action
Beauford Court
30 Monmouth Street
Bath BA1 2AP

"If the CPC is so good for games then why have companies like Level 9 abandoned the CPC and why haven't EA produced *Populous* for it? Because it is not powerful enough for the modern games. So what if a couple of trashy games fill up an ST disk? I know of a trashy game that fills up both sides of a CPC disk – *Scapeghost*, from Level 9. Compared to something like *The Hound of Shadow* or *Future Wars* (has to be seen and heard to be believed) on the ST, it looks like it was written in 1984!

"So to conclude, I think you should take a leaf out of your sister magazine *ST Format's* book (bad pun). In that mega-brilliant (it's even better than *New Computer Express*) mag they hardly ever slag off the Amiga apart from when it is absolutely necessary.



• Hard Drivin' runs faster on the ST – but it still looks like a Speccy port to Emma...

"I think what we should do is to make up a personal army to go out and destroy all the Spectrums, C64s, Amigas and PCs as the ST and the CPC are better than all of them put together. Long live the CPC and ST (especially the ST).

"P.S. I would just like to say that normally I do agree with the things you write in your column."

"Well, you've certainly got a bee in your bonnet, haven't you Michael? Especially on the subject of games..."

"For a start, *Hard Drivin'* does run faster on the ST – but it still looks like a Speccy port! And it's interesting that you compare games on the two machines principally in terms of graphics. My reaction to that is that if that's all you're worried about you might just as well plonk yourself down in front of the gogglebox all day and watch cartoons. You might think *Scapeghost* looks as if it was written in 1984, but you don't have a single word to say about how it plays. And as far as I'm concerned, that's what matters.

Finally, your remarks about all the major software producers abandoning the CPC because – you reckon – it's an inferior machine are commercially naive, to say the least. Put it this way, faced with the choice of selling games at £25 (*Hound of Shadow*, *Future Wars*) compared with £15 (disk-based CPC games), it's no surprise that some software houses find that the 16-bit grass is greener.

THE'RES NOWHERE
TO HIDE FROM



KIS CALLING CARD
IS YOUR INVITATION
TO DANCE WITH
DANGER!



A lesson to us all

OK, so your CPC might be great for zapping mutant Bodzoids from the planet Zit, kicking the giblets out of NY low-life and nuking the entire Warsaw Pact with your AH-64 Apache, but there are more worthwhile uses for your machine. Who knows, you might actually learn something. TREN-TON and ADAM did...

So – you've bought your CPC a 64K upgrade. You've started using ROM software to help it speed through loading. You've even gone to the extent of treating your machine to a second drive – but what's it ever done for you?

Well, it could change the way you view the world – possibly even the way you think – if you take advantage of the vast array of educational software for the CPC. There's a huge choice on offer to the CPC owner, yet its potential has gone largely unrecognised and the important arrivals on the scene largely unsung.

This Ugly Witch took Baby Bear.



• The Three Bears: Riddle-solving for the under-12s.

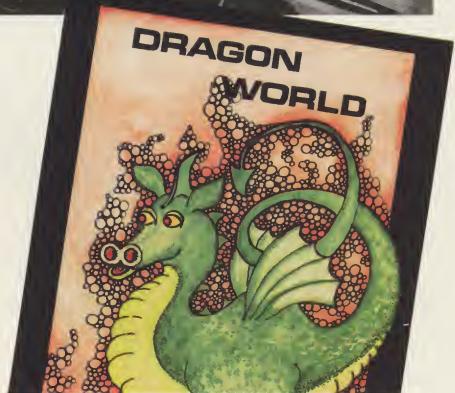
Primary value

The leading edge of educational software has always been, and will always be, the primary sector. Here, with fewer curricular restraints, it's easy for developers to hit the right spot by teaching the rudiments – the building blocks – on which children will base their educational career. The lack of specialisation means that

the potential market is much wider for the same investment.

Under the new curriculum, primary and early learning in schools is now often project-based, leaving little chance for software developers to guess the projects that will be common to most children. So a resurgence of interest in educational packs that stress the basics is definitely on the cards.

Educational software has possibly its greatest potential here. Young children may loathe being sat down and spoon-fed information, but put them in front of a CPC displaying an all-singing all-dancing teddy that wants to tell



• There's no reason why learning can't be fun.

THE IDEAL MACHINE?

The CPC is the logical choice for anyone who wants a machine to learn on and with. It has a huge repository of educational software, for starters, much of it admittedly cloned directly from the BBC. But while the Beeb has the support of the schools, the CPC has all the advantages of being a mainstream machine. Martin Rickitt of Rickitt Educational Media explains: "It's got the memory, the capabilities, the speed and is also hard-wearing, rugged and it's got a lot of software available. There won't be anything like it on the 16-bits for years, and of course there's still the price advantage. On the 16-bits in most cases it's the same program. There's nothing more added. Even the graphics are still basically the same chunky BBC-style, but they cost £20 not £10 or £12!"

The other software on sale for the CPC also bolsters its educational appeal, especially in the 'experience' market, where skills can be developed almost by accident. The professional software packages are just part of the story. Using your CPC helps in the acquisition of simple skills like keyboard familiarity and loss of 'techno-fear' – ever more essential in the modern world.

What's more, there's a whole new batch of software winging its way across the water. As with all things CPC, it seems that there are few people who actually recognise its potential in this country, and we have to rely on others to exploit it fully. This time it's the South Australian Government which has seen the CPC as an ideal educational tool. It's put the machine

into schools and has sought out the very best educational software to support it. It's even set up its own publishing company, called Satchel Software.

One of its best and most reliable sources is 4imation, a company ironically based in Britain – Barnstaple, to be exact. Now Rickitt Educational Media is re-importing the master disks so it can bring the best of Oz to our screens. And the good news is that it's still good, even after a 24,000 mile round-trip!

With these titles being added to the CPC roster and the promise of a new *Fun School* (*Fun School 3*, by any chance?) it seems that at last the CPC's education market is breaking open and may soon fulfill its promise. With educational software having an indefinite shelf life, this means that the pool of educational material is growing and getting better all the time.

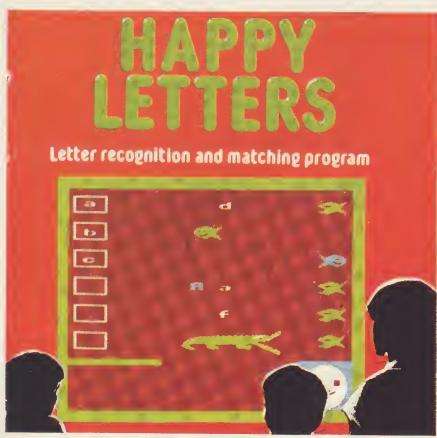
Computers are ideal tools for education, both directly and indirectly. With the business world becoming increasingly keyboard-based, skills in this area alone are worth having. But your machine can also help you learn, teaching in a refreshingly enjoyable manner, whether you're of pre-school age or just brushing up on the Franglais for an exam.



• Martin Rickitt runs the UK's largest educational distribution company.

them something, and they'll listen. This is the edge such programs have over most teaching techniques. It's personal, it's flexible and – if any thought has gone into it at all – fun!

The excellent range of pre-school and primary-level software is enhanced when the



• Happy Letters teaches the rudiments of spelling.

range available for the junior (8–11) age groups is examined (ouch – ed). Skill-building is made enjoyable by the challenge to explore *Dragon World* or *Granny's Garden*, although once again the structuring is critical if education is to be the result – and not wanton destruction!

"In some programs reward is fairly important, especially in the ones for the younger children" explained Martin Rickitt, a specialist educational software supplier. "You find in a fair number there are negative rewards. When you get something right nothing happens, whereas if you get it wrong then something terrible happens. And the child seems to prefer something terrible than nothing happening, and so ends up trying not to complete the program just trying to make something even more nasty occur!"

This sector leads the market simply because at this age children have got no real

Reeltime

The Complete
Introduction

Amstrad
CPC 6128



• The CPC is rapidly establishing itself as a mainstream educational computer.

choice in what they do with their computer. But this big stick concept is actually an injustice to the better strata of the educational programs for the under 12s. They are in fact fun to play – indeed many members of the AA staff have wasted far too many man hours trying (and failing – ed) to solve the riddles in *The Three Bears* and *Dragon's World*.

WORK OR PLAY?

Educational software falls into two distinct categories. Firstly that of the dedicated teaching program that seeks to give the user skills and information by guiding them through processes and questions relevant to the topic. And secondly, those which are designed with other purposes in mind, yet teach valuable lessons almost by default.

Infants and juniors can learn to read and count with programs such as *Happy Numbers* and *Happy Letters* from Bourne Educational Software, while juniors are introduced to decision-making with specially-tailored adventures such as the *Three Bears* from School Software and *Caesar's Travels* from Mirrorsoft. Junior-level students have a bevy of *Factfile 500* from Kosmos quizzes and specific skill builders like *Mapwork*, from School Software.

Those pupils seeking a little extra help in the hectic world of the new secondary curriculum can brush up before exams with various revision pro-

grams, even in the tricky areas of Physics and Chemistry. Even CPC-ers over school age can add skills by the bucket load to their CVs, thanks to count-

SCHOOL'S OUT

Strictly educational software (*no canes please – ed*) has its roots in schools, the BBC and – latterly – the Nimbus. It was here that the style of educational software was laid down, so that when other micros became available they logically followed this style.

Recently, however, software has appeared which uses the CPC's capabilities far more fully. Yet the new educational software has been largely overlooked by the press and distributors alike. Which is a shame, as the demand for such software has been growing steadily.



The King David High School in Liverpool uses CPCs in the classroom as a teaching tool.

The school is equipped with a total of 15 464s. They were bought in 1985, the reason being that the CPC offered far better value for money than its

less special skill teachers such as the *French Mistress* from Kosmos and general interest packs like Toplogika's *Yes Chancellor*, where you get a chance to run (or ruin) the economy.

Other genres, too, have their educational properties, many educationally valuable packages being disguised as games or serious programs. Flight sims and adventures are brilliant methods of picking up a peripheral introduction to a subject without really trying. *Gunship* from Microprose relies on an understanding of the physics and mechanics of modern helicopters to be played to the full. And Toplogika's *Avon* takes you on a guided tour of Shakespeare's stomping grounds, adding life to what would normally be another dull page in a history book.

Packs such as *Supercalc II* and *WordStar* have their place too. They are great in their own right on the CPC, but they also have uses far beyond the scope of the home computer – regardless of its spec.

They are industry-standard pieces of software, and an understanding of the way they work will serve anyone well in the future. Certainly there are differences between CPC *Wordstar* and the PC Version 5.5 currently on the rounds in the business sector, but the essential mechanisms are the same, and someone with such a grounding can learn the new features much easier than a person who approaches the program cold.



GUNSHIP



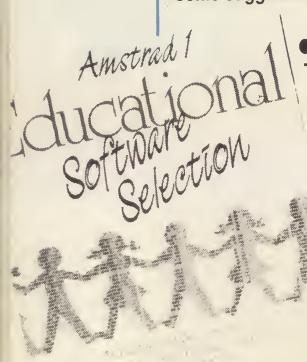
competitors. Tony Burroughs, the school's Information Technology head, explains – "We had a choice of buying either 15 CPCs or around 8 BBC machines. It was important to give hands-on experience to as many children as possible, so the CPC was the obvious choice for quality and value."

And what are they used for? "A lot of software on the CPC is ideal for teaching information technology. Word processors such as *Tasword* are extremely easy to use, and excellent for familiarising pupils with computer packages."

Unfortunately, the lack of publicity/marketing of much educational software means that teachers are still short of information and/or software. "There is a great lack of educational software on the CPC", says Tony Burroughs, "The BBC is the only one machine particularly well supported. This is a great pity, as I know of many schools in the area that have also opted for CPCs."

PLEASE SIR - CAN I HAVE SOME MORE!

Where do you go if you want to get your hands on some of the best educational software on the market? Most software retailers will stock the three *Fun School 2* packages, but for the others here are some suggested avenues to explore:



• **Rickitt Educational Media:** The country's biggest distributor of educational software now deals directly with the public. As an offer for *AA* readers, Rickitt will send you a catalogue (retailing at £1 in the local newsagents) and a CPC-specific list detailing everything in its stockroom that even fits in a 3" drive!
Ring 0460 57151

• **ARC Education:** This company's *Master Pack Plus* (£48) contains over 90 programs. It has also put together smaller packs aimed specifically at primary or junior levels.
Ring 0472 812226

Secondary interests

This image problems persists when the jump is made to the secondary level. With all the aliens from the world of games vying for attention and pocket money, it seems a ludicrous concept that anybody would actually chose to buy educational software. But why is this so? Eventually everyone has to revise, or maybe get some help with a particularly sticky bit of coursework. And why stare at reams and reams of notes, or heavy, dull textbooks, when you can be forced to think - a painful but productive process - by a properly-designed tutorial program, and probably get twice the results in half the time.

OK, the computer might not replace that physics textbook that's currently propping up the piano, but in question-and-answer sessions ("learning by doing" as John Jennings of School Software, an experienced educational publisher, calls it), you can retain and learn more information much more quickly. A CPC will take the writer's cramp out of the learning by rote which is part of every chemistry/biology/physics syllabus ever devised.

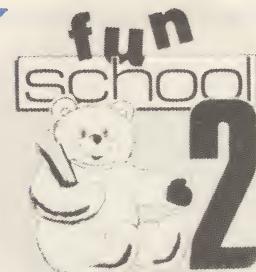
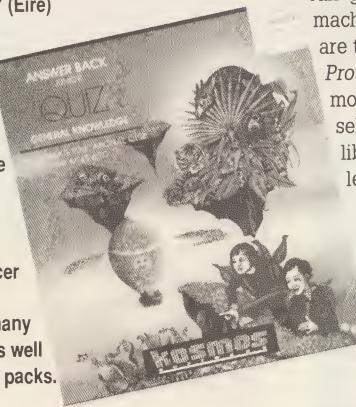
A CPC can help with those dull hours spent slaving away over homework, as well as making the learning enjoyable (or as enjoyable as possible). A word processor can help you speed faster through essays, and offers the chance for greater accuracy and structuring,

• **School Software:** Produces software for all ages, from the *Three Bears* for infants to physics revision for those lucky people with exams this year!

Ring 010353 6149477 (Eire)

• **Fernleaf education:** Specialists in the 7-12 age range, mainly of the interactive/adventure style.
Ring 0474 359037

• **Kosmos:** Producer of the *Answer Back Junior Quizzes* on many different subjects, as well as various language packs.
Ring 05255 3942



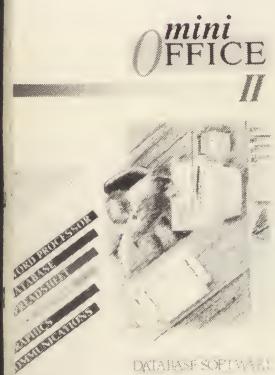
viding support especially for those studying English. Software exists to cover everything from the classic plays of Shakespeare to the not-so-classic poems of Gerald Manley Hopkins.

Even those of us who have long since walked out of the school gates can get a helpful hints and advice from the machine. CP/M tutorials and beginners guides are there for any who feel the need. While for *Protext* there are tutorials in how to get the most from your word processor. The large selection of programs available from PD libraries allow experimentation in countless areas at next to no cost.

Home on the Range

Home-based educational software - i.e. that not designed solely to support school work, but meant to be used for its own sake - has never managed to make the breakthrough. It still lacks the clout of either serious or games software in the eyes of distributors and retailers. Yet there is undeniably a market for this type of product, initially from parents, but also from those who simply want to approach learning from a slightly more enjoyable angle.

Part of the blame lies with the magazines, which are either not geared to cope with reviewing educational products or lack the expertise to give anything other than a punter's-eye-view of the program. More importantly, there is the lack of availability - quite simply, you can't buy what you can't see!



• Serious packages can teach valuable office skills at an early age.

not to mention presentation. The graphics facilities of packages like *Mini Office II* might help with projects in topics like economics, for example, with its graph and accounting programs.

The learning (exam-oriented) programs even continue beyond standard schooling, pro-

AA'S FAVES

There's a bewildering choice of software out there, and it can be difficult to pick the best. While we've only seen a selection of what's available, the following products get the official *AA* seal of approval.

• For the nippers

Fun School 2 • Database Software • The three programs in this suite are suitable for age ranges 4 to 10. Each package has eight programs which concentrate on a different aspect of learning.

Caesar's Travels • *Mirrorsoft* • *Caesar* (a cat) gets booted out by his owner and you have to guide your feline friend to a new home. This interactive story requires plenty of decisions to be made on the way, and comes complete with a story book

The Three Bears • *School Software* • Baby Bear's been captured by the wicked witch, and you're the only one who can save him. Nicely presented program that encourages problem solving. Can you bring him back home safely?

Dragon World • *4mation* • Enter the realm of the dragons and find the five sacred dragon teeth. Designed more for the classroom than use at home, this wonderful package comes complete

with an activity pack so that a whole project can be based around the program.

• Older children

The French Mistress • *Kosmos* • Translate English to French, and *Francais au Anglais* in this language translation program. A selection of lessons guide the pupil through different stages of difficulty. Note that the software is designed to be

used in conjunction with textbooks, and doesn't aim to teach the complete beginner. Also in this series are *The German Master* and *The Spanish Tutor*.

Software Selection • *Fernleaf Educational Software* • Seven educational programs for junior school learning.

Each program concentrates on a separate theme, and these vary from the building of a Roman fort to the financial management of a market stall.





• Tutorial disks are available to help with many top commercial packages.

Software shops demand high-profile, high-volume, quick-turnover titles, not steady sellers.

As boss of the country's largest distributor of educational software, Martin Rickitt knows this problem only too well. "We've got accounts with about 200 to 300 shops. The number who actually put educational software on their shelves, as opposed to getting it in to order, is very small. To start putting a good range for one machine on your shelves, then you're talking about a lot of valuable space. Then when you try to do that for every format,

a shop just can't do it. There is some potential for some of the early learning shops, but even if they only stocked *Fun School 2*, you're talking about 50 different programs. It's a logistical nightmare, and they wouldn't have the necessary expertise".

With games there are only eight formats to sell on.

Education, with its broader machine base, requires more shelf space than most retailers can afford to surrender. Yet this doesn't have to be so, as the now famous *Fun School 2* proved. It was aggressively marketed, clinically designed for maximum shopper appeal, and the sales force twisted arms, begged and cajoled the product onto the shelves.

Once it was there people saw it and bought it. It had good general appeal, was solid – if not revolutionary – software and was generally available on all formats. A lot of investment went into establishing a market – which curtailed profits – but for the first time educational software was within a till's reach of the consumer.

"We just couldn't get hold of enough at Christmas (*Fun School*). The reason it was successful that it was available on all formats. If you had a computer then you could have a *Fun School*. It's got a bit of everything on it. It's ideal, for example, for grandparents who don't know a child's strengths and weaknesses. It doesn't matter, you buy a *Fun School* and it's got everything on it. It's the name and the concept that sold it!" was Martin Rickitt's explanation for the phenomenal sales.

LEARNING WITH LOGO

Logo is a language designed essentially for teaching children, and was developed in the 1960s by Seymour Papert at the world-famous Massachusetts Institute of Technology.

The principle behind LOGO is that the student issues commands to the computer, which in turn controls a graphical environment. The results of the users' instructions are carried out graphically, building up shapes and patterns on-screen.

Simple commands, such as FD for forward and RT for turn right, direct the actions of a pointer or 'turtle', which leaves behind a trail, forming a permanent record of its movements.

The turtle is so called because the original devices were electronic buggies that moved along the floor rather than on a monitor screen, and used a pen to mark out their trail.

These wheeled robots were usually encased in a turtle-like dome-shaped shell – hence the name. The physical devices were used because in those early days a high resolution display was unheard of. Computers were capable of displaying only

text-based screens. The advent of computers like the CPC with far superior graphical capabilities was the force that made these primitive devices obsolete.

LOGO is a list processing language. Simple steps are built up in the form of procedures – a programming structure that can be broken down into smaller and simpler steps. An elementary procedure could draw a square on screen which, in turn, could form part of a program that puts together complex three-dimensional geometrical shapes.

LOGO certainly isn't the sort of language that you'd write a word processing package in, but it is an ideal learning tool – and is ideal especially for CPC owners, as it's supplied free on disk with the 128K machines!

The version supplied is written for the CPC by Digital Research. Dr Logo is a special implementation of the language, with commands added to take advantage of such CPC-specific features as sound and colour graphics.

FUN SCHOOL EDUCATIONAL SUCCESS STORY

There is one program that stands head and shoulders above the rest in the education stakes: *Fun School 2*.

A year ago, when the educational market had dwindled away to almost nothing, Database launched a series of three educational programs for young children. Much to everybody's surprise – not least Database's – the package was an instant success, smashing its way into software charts usually the exclusive domain of games.

The programs have sold more than 100,000 copies to date between them, an unprecedented amount by any standards. It's hard to define the reason for *Fun School 2*'s extraordinary success. Database puts it down to the marketing of the product. A bright, attractive box and novelty badge, full-page colour advertisements in the computing press, and – most importantly – actually getting it into chain stores like Smiths and Boots. It became a product that people were aware of and could see in the shops. In addition, it has been released on a wide range of computers apart from just the CPC.

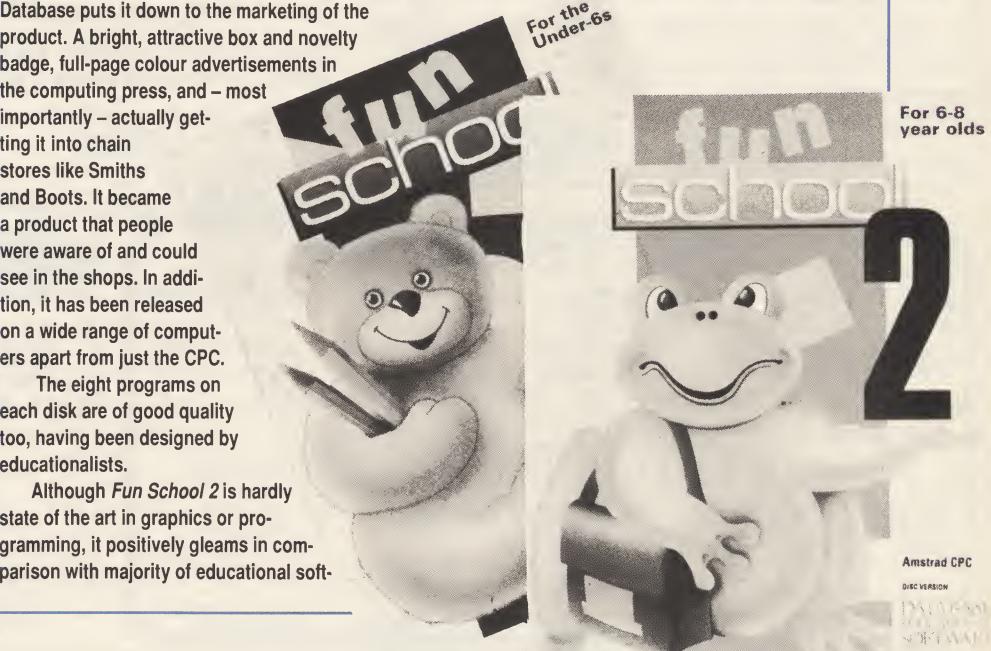
The eight programs on each disk are of good quality too, having been designed by educationalists.

Although *Fun School 2* is hardly state of the art in graphics or programming, it positively gleams in comparison with majority of educational soft-

ware. Previously, much educational software looked as if been written by the kids that were going to use it.

There are three programs in the *FS2* series, covering the under-sixes, six-to-eight year olds, and over-eights. This gives the titles wide popularity for all ages.

It's a great pity that not all educational software is of the standard of the *Fun School* programs. There is some good stuff out there, but you'll have to be cautious before you shell out your hard-earned cash. If at all possible, it's wise to try before you buy.



Happy Birthday Maxam

It is the 5th anniversary of the release of Maxam, the first ROM based program for the CPC. To celebrate this occasion Arnor are holding a sale of CPC products for the first time.

Everyone knows that our ROM software is the best business and utility software for the CPC, so we will just give you the prices :-

All 7 Arnor ROMs are available at special prices and additional savings may be made by buying more than one program. The programs are:

Protext	Maxam
Prospell	Maxam 1.5
Promerge Plus	BCPL
Utopia	

The ROMBO ROM box can also be supplied at an additional cost of just £20 if one or more program is being purchased. We are unable to supply the ROMBO separately.

Please note that if Maxam 1.5 and Protext are purchased then Maxam is not needed.

Number of ROMs	price without Rombo	price with Rombo
1	£25	£45
2	£40	£60
3	£60	£80
4	£75	£95
5	£90	£110
6	£100	£120

ORDER FORM - Send to: Arnor (AA), 611 Lincoln Road, Peterborough, PE1 3HA
Please send me (indicate where applicable):

ROMBO PROTEXT
 PROSPELL PROMERGE +
 UTOPIA MAXAM
 MAXAM 1.5 BCPL

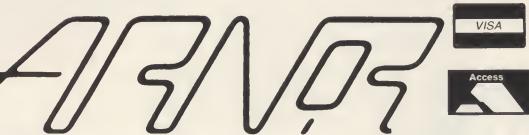
I enclose Cheque / Postal order for £ or debit my
Access/Visa card no. Exp. /

Releasing your micro's potential...

Name

Address

Postcode.....



Arnor (AA), 611 Lincoln Road, Peterborough, PE1 3HA. Tel: 0733 68909 (24hr) Fax: 0733 67299

All prices include VAT, postage and packing. Credit card orders will be despatched by return of post. If paying by cheque please allow 10-14 days for delivery.

PAPER

Best quality wood-free - LOW DUST spec.

Type & Weight	Box	£/box
11/9.5 60gsm Fanfold Listing	2000	£13.95
11/9.5 70gsm Microperforated	2000	£15.95
11/9.5 85gsm Letter Quality	1000	£10.95
A4 Size 70gsm Microperforated	2000	£19.95
A4 Size 85gsm Letter Quality	1000	£11.95
11/9.5 NCR 2-part Plain	1000	£21.95
11/9.5 NCR 3-part Plain	700	£24.95
11/9.5 NCR 4-part Plain	500	£24.95
A5 Size 80gsm Letter Quality	1000	£11.95

RIBBON REFRESH

Our own invention - Carbon in a Can!

Simply lift off ribbon casing & apply fresh carbon to your ribbon - double its life in seconds!

One can does 20-100 ribbons

still just £8.95

Now over 12000 sold!

CASPELL COMPUTER
of POOLE

ALL PRICES INCLUDE VAT

DISKS

25 x 5.25" Branded Quality £13.95

50 x 5.25" Branded Quality £24.95

25 x 3.5" 135tpi Branded £24.95

50 x 3.5" 135tpi Branded £47.95

LABELS

Address Labels 3.5" x 1.5" 1 or 2-across
£3.75 per 1000 + Carriage

FREE CATALOGUE

**1500 BOOKS!
LIST 50p**

- HOW TO ORDER -

DELIVERY PAPER

(any quantity)

UK Mainland: 3/5-day: £5.00
24-hour: £10.00

Overseas: Postage at cost. Callers (of course!) FREE

Order by FREEPOST - Cheque/PO/Visa/Access

Caspell Computer, Dept AA, FREEPOST, Poole, Dorset BH15 2BR

Order by PHONE - VISA/ACCESS WELCOME!

(0202) 666155 (24hr)

CALLERS WELCOME at our Sales Centre -
Unit 2A, Sterte Ind Est, Sterte Rd, Poole

Offers valid
for 28 days
next to the hump-
back bridge!

RIBBONS

PRINTER

Amstrad

CODE

No.

PCW8256 Fabric Longlife

2741

PCW8256 Colours

C

PCW8256 Multistrike Films

2741MS

PCW 9512 Fabric Longlife

B

PCW9512 Colours

2746C

PCW9512 Multistrike Films

2746MS

DMP2000/2160/3000/3160

B

DMP 4000

2426

LQ3500

D

2741LL

C

Other

(Please ask if yours isn't here!)

Brother HP15/25/40

2696MS

Brother M1009/1109/1209

B

2412

C

Commodore MPS-803

2412

Canon PW1080A

C

2223

C

Citizen 120D/180E/LSP-10

2488

2477

C

Citizen MSP-20/40/50

2477

2478

E

Epson FX/MX/RX-80

2273

2454

B

Epson LX/GX-80

2454

2477

C

Epson LQ-500

2774

2563MS

B

Juki 6100 Daisywheel

2228

NEC Pinwriter P1/P2

C

NEC Pinwriter P6+/P7+

2870

NEC P2200

2844

2228

C

Panasonic KX-P1081

2904

2317

B

Seikosha GP100

2741

2236

C

Seikosha SL80

2236

2236

C

Shinwa CP-80

2698MS

2861

B

Star LC-10

2869

2868

B

Star LC24-10

2761

2761

C

RIBBON PRICES inc VAT & post

	1-off	2-off	5-off
Price Band A	£2.95	£5.75	£12.95
Price Band B	£3.95	£7.45	£16.95
Price Band C	£4.95	£8.95	£19.95
Price Band D	£5.95	£10.95	£22.95
Price Band E	£7.95	£14.95	£34.95

FORUM

ADAM WARING picks another crop of technical teasers...

● Dossing around

As well as a CPC, I also use an IBM PC clone. My question is, will MSDOS work on a CPC464 with the DD-1 disk drive?

Thomas Chambers
Wolverhampton

No. You haven't a hope in hell of getting MSDOS to work on a CPC.



● Can you make your CPC compatible with a PC? Not on your Nellie...

● Out of line

I am writing with a query regarding the word processor program included on the cover tape given away with the Christmas issue of *Amstrad Action*.

I have an un-expanded Amstrad CPC464 and an Epson LX-400 printer. The difficulty is that of obtaining a hard copy. On selection the program returns the error message 'Printer Off Line', when in actuality the printer is on-line. The problem seems to be in line 2290 of the program where INP(&F500) should not be equal to 30. Presumably this is some indication to the ROM that the printer is on-line.

I have REMed out this line, and so have been able to obtain a hard copy of any document. Though the program is working, I would be interested to know if it is possible to use it as originally written, or why I get the 'Off Line' message.

One further point regarding the printer. I have been unable to access printer codes beyond chr\$(128). Would the KDS printer port be suitable for use with the Epson LX-400?

John Forsyth
Bath

Sorry about the bug in the word processor. It seems that the print option works with some printers but not others (It worked with our 120D). Try changing the beginning of line 2290 from **IF INP(&F500)<>30** to **IF INP(&F500) AND &40**.

As far as I'm aware, the KDS port will work with any standard Centronics printer, and I can't see any reason why it shouldn't work with the Epson LX-400.

● Office job

I have just bought a second-hand Seikosha GP-250X printer for my CPC464 and I am looking for a program that can do bar charts and the like.

I was thinking of buying *Mini Office* or *Mini Office II*. Could you please tell me the differences between these, and whether they would both be compatible with my printer.

I would also like to know the address of a

company where I could order printer ribbons from.

Simon McCarthy
Warrington
Cheshire

Mini Office II is an enhanced version of Mini Office. Mini Office II can do everything that the original could, but more neatly. It also has built-in comms software for transferring data to other computers, and a label-printing program - which must be useful to somebody. Both will work with your Seikosha.

Have a rummage through the pages of our sister magazine *New Computer Express*. There are plenty of companies advertising printer ribbons in the Shopping Express section of the magazine.



● *Mini Office II* gives more professional-looking results than its predecessor.

● Disk doctor

I have a very useful tip for disk drive owners. Sometimes, especially in old disks, when we try to load a program we find the fatalistic Read Fail. In such cases I use a disk editor to repair the damage, but what happens when the bad sector is in the directory area? The disk becomes useless.

This was my case, and I decided to try anything with it, because it couldn't get any worse. I pushed back the piece on the side of the disk that opens the metallic shutter, and I examined the surface of the disk itself. If the bad sector is on side A then you have to look at side B of the disk as the magnetic disk head reads from the bottom of the disk drive. I turned the disk until I found a part which wasn't perfectly clean. Then I passed a piece of

cotton wool soaked with a little alcohol over the surface of the disk and spread it over the dirty area. I then waited until the disk was completely dry and there were no marks on the disk at all. Viola! The disk worked again!

Of course, you can try this method every time you have a bad sector (firstly back up all existing information), but you risk damage to other sectors. So I prefer to do it only when the disk is totally 'lost'.

I realise it's an unsophisticated method, but every time I've tried it the disk has been cured, twice at any rate.

Noel Llopis Artme
Luanco
Spain

I would like to stress that readers should try this only as a last resort, but if everything else has failed then you have nothing to lose!

● Repent ye Pirates

I own a CPC464. Recently several of my copied games ceased to load properly, and crashed. All my other games work perfectly.

Is it the fault with the cassettes or the computer tape recorder, and is there anything I can do to rectify this problem?

Jack Maxwell
Aviemore
Scotland

It's clearly an act of God that your pirated software won't work. The only way to rectify the problem is to visit your local software shop and buy the games you want to play.

● A load of old COBOLers

I am interested in COBOL and was wondering if there are any recommendable books or packages on the subject. I have a CPC464.

D Carter
Hednesford
Staffs

The only implementation of COBOL for the CPC that we know about is the public domain version from WACCI. You don't say whether you have a disk drive for your 464, but you'll need one to run COBOL as it's a CP/M program. If anybody knows of a tape version then you'll let us know, won't you?

● Transfer Trauma

I currently own a CPC 664 with 64K memory expansion and use CP/M+ extensively. I, and a colleague, have become very proficient Z80 programmers using Devpac 80 but now need to transfer all our accumulated data onto MSDOS 360K format disks for use on an IBM.

I contacted various suppliers, read many magazines and have finished up totally confused due to the conflicting information I have received.

My requirements are simple. I need to be able to transfer from 3" CP/M 2.2 and CP/M+ system disks onto 360K 5.25 inch from within CP/M+. This appears to exclude RODOS – although I have not got a Rombox to use this. It was suggested that a downloading service be used, but the amount needing transfer outweighed the cost of a drive.

I would therefore be grateful if a drive and appropriate software could be suggested.

B Kantor
Bristol

Unfortunately, the external drives for the CPC and the disk drives on the PC are incompatible, as they use different file formats.

Until now, that is. Siren Software is currently working on a utility that will allow its second disk drives to read and write to PC format disks. The program, if things go according to schedule, should be finished by the time you read this. When the product becomes available it will work with both 3.5-inch and 5.25-inch disks, and 360K or 720K formats.

However, as you're programmers, you may want to transfer your files to the PC for use with the PDS assembler. It is a relatively simple matter to transfer the files through the parallel interface. Use the up-load option from the PDS monitor to grab from the CPC's memory and save as an ASCII file:

U>filename,start,length

I used this method to transfer all my source code when I changed to using PDS without problems.

● Light up my life

If I bought one of the various light pens available for my CPC464 with disk drive then would I be able to use it from

BASIC with my own programs? I have a good knowledge of BASIC, but at the moment have little knowledge of machine code.

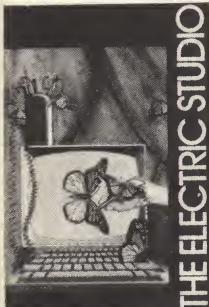
If this is possible then which one do you recommend without being too expensive?

Gareth Watts
Norwich

The Electric Studio Light Pen includes a special machine code program that reads the light pen's co-ordinates for use from your own BASIC programs. It costs £19.95 for the tape version, and what's more you get a very reasonable art package in the process!

● Summing up

On the AA Christmas covertape you included a program called Type-Writer. This program produced a check-sum after each line was typed, which could be compared with the check-sums that appeared in the Type-Ins section of AA.

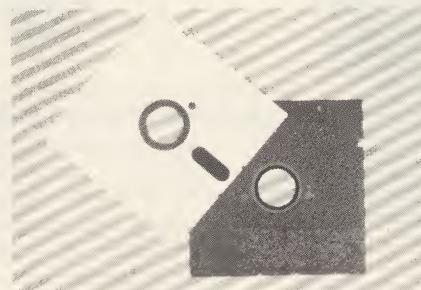


● Electric Studio's Light Pen. You even get an art package thrown in.

I loaded the program and typed in ten pin bowling (AA49). When I ran the program I found the check-sums still appeared after the text that appeared on screen, making the game impossible to play. Could you please tell me of a way to prevent this?

Ian Kelleker
Cork
Ireland

You only need to use Type-Writer to check the listing once. When everything tallies with the check-sums then save the listing, reset the



● Want to transfer files to 5.25-inch disk? See Transfer Trauma...

machine and run the program. It will now work perfectly well without Type-Writer's help.

● What a dump!

I see that in the February issue of AA (Forum, page 23) you advise Steve Crocker of Huntingdon that there is no facility to print out screen dumps from BASIC.

In fact it is possible, and I wrote a short BASIC program back in 1985 when I was using a CPC464 and Shinwa CP80 dot-matrix printer. The listing is best included as a subroutine which can then be called by a GOSUB 9000 command. The whole screen will be reproduced upright (across the page), not sideways as is usually the case.

However, the routine does have two limitations. The first is that because it is a BASIC program it is very much slower than machine code and one may as well make a cup of tea while the program is doing its job. Secondly, the background colour (or other predominant ink) must be set to zero. This will reproduce as white, the other colours as black.

A further point to remember is that different printers may use different control codes, and unless the Mannesmann Tally MT80/CP80 or similar printer is used some amendments may be required.

Philip Jimenez
Norwich

```
9000 ' SCREENDUMP FOR MT80/CP80 AND SIMILAR
      PRINTERS
9010 WIDTH 255:PRINT#8,CHR$(27)"3"CHR$(19)
9020 DIM b%(638)
9030 FOR v% = 399 TO 7 STEP -7
9040 FOR u% = 0 TO 638
9050 b%(u%) = SGN(TEST(u%, v%)) * 64 + SGN(TEST(u%, v%)
      * 32 + SGN(TEST(u%, v% - 2)) * 16 + SGN(TEST(u%, v%
      - 3)) * 8 + SGN(TEST(u%, v% - 4)) * 4 + SGN(TEST(u%, v%
      - 5)) * 2 + SGN(TEST(u%, v% - 6))
9060 NEXT u%
9070 PRINT#8,CHR$(27)"K"CHR$(127)CHR$(2);
9080 FOR u% = 0 TO 638
9090 PRINT#8,CHR$(b%(u%));
9100 NEXT u%
9110 PRINT#8
9120 NEXT v%
9130 PRINT#8,CHR$(27)"0"
9140 ERASE b%
9150 RETURN
```

Thanks Phil, it works well, but as you say, it's bit on the slow side.

● Reading and Writing

Can you tell me how to erase a read-only file with my 6128. I gather from the manual that you can do this with CP/M but it seems as clear as mud so far as the details are concerned.

The reason I ask is that I have discovered a fault in the Amsoft DLAN program. On one of the fonts the Q has been corrupted and has lost its tail.

I have redesigned this letter with the character generator, but I cannot re-save under the name DLANCODE.BIN due to the presence of the read-only file of that name already being on the disk.

Malcolm Pike
Fareham
Hampshire

The CP/M SET command is used to change file attributes. Firstly you must change the file status from Read Only to Read and Write. Insert side one of your CP/M disk and type:

SET B:DLANCODE.BIN [RW]

You will be asked to insert disk B into the drive. Put your DLAN disk in and press Return. The file will now be read/write status and you will be able to save your new file onto the disk. If you wish to protect the modified file from accidental erasure then the command:

SET B:DLANCODE.BIN [RO]

Will set it back to read-only status.

● I Ink therefore I am

If any of your readers are fed up with buying new printer ribbons for their DMP2000, or any other type of printer that uses a similar type of ribbon, this is a tip that extends the life of them considerably.

You must first open the case that contains the ribbon – any end will do – and you can do this by inserting a knife between the case joints and prising gently apart. Be warned: open



carefully or the small rollers inside will shoot all over the place. All you need do now is squirt a small amount of WD40 or a similar product onto the foam sponge pad and close the case again.

Run the printer through a file a few times on some spare paper to spread the ink evenly. You should find that the ribbon lasts longer after this treatment than it did originally.

I would not advise this as regular treatment for ribbons as the pins in the printer head need a silicon-based ink to lubricate them. So after using WD40 once I then use the spray ink as advertised in this magazine and then WD40 again, thereby prolonging the life of the ribbon and saving a considerable amount of cash.

Dennis Titman
Wakefield
West Yorkshire

A similar method exists for most printer ribbons. If there isn't a sponge pad inside then don't worry too much, just spray the ribbon directly.

● Clubbing together

I have been tinkering around with my CPC for a couple of years now, and have become quite proficient in machine code. I enjoy playing games, but am interested in the serious aspects of computing too. I was wondering if anybody else in my area is involved in a computer club. I would like to become involved to swap ideas and meet people with similar interests etc.

By the way Adam, I thought your game *Lost Caves* was brilliant! ('Bout the only one who did - ed)

Laura James
Weston-Super-Mare
Avon

If anyone is involved in a computer club anywhere in the country then let us know, and we'll give you a bit of free publicity!

I know, and at only £2.99 it's a bargain too!

● Cracked Code

Trying to type in the sprite routines listed in February's edition of *Cracking the Code* (AA53), there were some op-codes which the assembler did not understand. These are ADD &8, ADD &50, ADC &C0 and LD B,(DE). As far as I know ADD and ADC add a number to the accumulator, and LD B,(DE) should be LD A,(DE). Do 'sprite width' and 'sprite height' refer to the number of pixels or to the number of characters?

Is it possible to switch off the disk-drive on the 6128 from BASIC, using an Out command.

Kenneth Scicluna
Fgura
Malta

Some assemblers will assume that all operations where a register isn't specified refer to the accumulator. The LD B,(DE) is not a valid instruction. Replace it with LD A,(DE) followed by LD B,A. We've had Michael clapped in irons and flogged.

As far as I can tell from Michael's listing,

the width is in bytes and the height in pixels. This may seem odd, but it is the convention that most programmers use because it is the quickest to execute as no further operations need to be carried out.

Switching the disk motor on and off is a simple matter from both BASIC and machine code. The motor is controlled by port &FA7E. OUT &FA7E,1 switches it on. OUT &FA7E,0 switches it off again.

● Writing Process

Could you please help me! I have no experience in computing except for the very basics. I would like to know if there is a program available for typing. If there is could you please give details of the cheapest one for the Amstrad CPC464.

Also could you tell me how to print the information from the screen onto paper. I would be very grateful for your help.

Shabia Khanom
London

What you need is a word processor.

This is a program that allows you to type in text, perform various operations on it, save it to tape or disk, and print it out. A simple word processor appeared on the Christmas cover cassette. One of the cheapest word processors that you can buy is Mini Office. This is available for only £2.99, and includes other goodies such as a database and spreadsheet.

To print your text out onto paper is a rather more expensive affair. You will need to buy a printer, which can cost anything from £100 upwards. See our Buyers Guide for further details.

● Type -in Typo

Wishing to give every encouragement to new readers to use your Type-Ins, I would like to point out that if half your readers are 464 owners then 19,000 of them will be unable to get the version of 'Type-Writer' on your Christmas cover tape to work. The offending lines are as follows:

Line 40. Alter c\$ to h\$

Line 110. Alter LEFT\$(c\$,1) to LEFT\$(h\$,1) for both the "Y" and the "y" equation.

Line 40 should produce the code EiBp, and 110 should give AqBv. Of course you will only be able to get these codes when your program works.

I have only written this letter because there was no mention of the problem in last month's issue.

J Heath
Knaresborough
North Yorkshire

Well spotted! We apologise for that boo boo, and hope it hasn't caused too much trouble.

● Out of line

Please help! I've had a problem for a while and it's driving me nuts! I've got a CPC464 with a 'Superpower' ROM card and Toolbox ROM and recently I've purchased the Protext word processing ROM. I have also linked to this little lot an Epson RX-80 F/T printer.

However, ever since I've had the printer it has always form fed an additional line so all the lines come out double spaced. I've disabled the Carriage Return and Line Feed DIP switch in the printer so it is now switched to carriage return only, but it still persists in double-spacing the lines. I have also had the printer linked to a BBC computer and it performed with no problems and no extra form feeds.

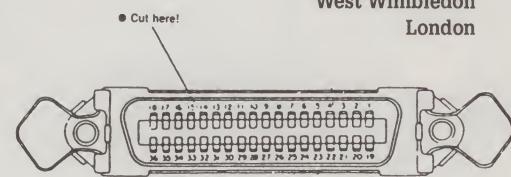
With Protext however I thought my problems were solved by selecting line spacing zero. It printed beautifully with no extra lines (by sending a control code to stop the extra form feeding) but it will no longer initiate page breaks automatically.

Please tell me if there is a fault with my 464 that it keeps sending extra control codes or is it a fault with the printer. If you think the fault is with the computer could you tell me if it is rectifiable?

Is it possible for you to give me an address for Epson as I have mislaid my RX-80 F/T manual, and would like to try to get another one.

One last point to ask you. What is the maximum length printer lead possible to connect with a 464 before there are problems with printing (On top of the ones I've already got!).

David Lea
West Wimbledon
London



Not that old problem again! We last printed the solution in AA50, so I suppose it's about time to print it again.

This fault is peculiar to the CPC range of computers, and happens with many different makes of printer. The AUTOFEED line is constantly held low by the CPC, hence the printer always 'sees' a line feed with every carriage return.

To solve it, pin 14 of the printer port must be disconnected, either by cutting the wire in the printer cable that goes to that connection, or by masking the pin with a bit of sellotape.

You can contact Epson at: Campus 100, Mayland Avenue, Hemel Hempstead HP2 7EZ. The telephone number is 0442 61144.

You don't generally get data skew problems with computer cables, so you can have the cable any reasonable length.

WHAT ARE YOU WAITING FOR? Get those tips rolling in - the best one each month wins a massive wad (£20!), while runners-up each get an ultra-fab AA T-shirt. Don't be seen without one!

* SUBSCRIPTION * SUBSCRIPTION * SUBSCRIPTION * SUBSCRIPTION *

12 AMSTRAD ACTION BACKED ISSUES



A FREE GAME

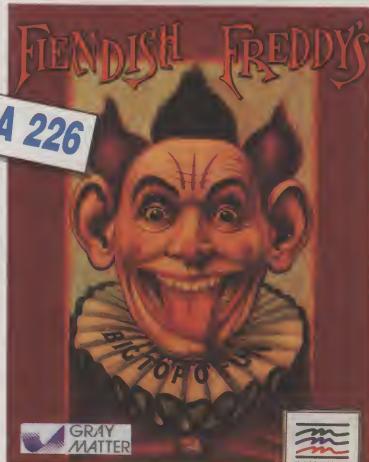
CHOOSE
EITHER



or



or



ONLY

£17.95

I wish to subscribe to Amstrad Action at £

Order Code No.:

Name: _____

Address: _____

Postcode: _____

Tel: _____

I wish to pay by Access / Visa / Cheque / P.O.

No. _____ / _____ / _____ / _____

Exp. date: _____ / _____

Please make cheques payable to "Future Publishing Ltd"

Send to Amstrad Action, The Old Barn, Freepost, Brunel Precinct, Somerton, Somerset TA11 7BR.

★ Britain's best-selling magazine for the Amstrad CPC 464, 664 and 6128.

★ Remember our unique guarantee: we will refund the cost of all unmailed issues, if you are not completely satisfied with our subscription service.

★ Use the coupon or ring our hotline number having your credit card handy.

★ Hotline Number 0458 74011.

★ Be sure you get your copy before the newsagent sells out.

Overseas Prices:

Air Mail Europe £33.95

Surface Europe and World £23.50

MARVEL
COMICS®

MARVEL COMICS® & PARAGON SOFTWARE®
PRESENT



the AMAZING SPIDER-MAN®

and CAPTAIN AMERICA® IN



Screenshots taken from various computer formats.

Free Marvel comic book destined to become
a collector's item, available by return.

DR. DOOM'S™ REVENGE!

Available for SPECTRUM, AMSTRAD, C64, AMIGA,
ATARI ST, PC and Compatibles.



EMPIRE SOFTWARE · 4 THE STANNETTS · LAINDON NORTH TRADE CENTRE
BASILDON · ESSEX · SS15 6DJ · PHONE (0268) 541126

Copyright © by Marvel Entertainment Group, Inc. All Rights Reserved. Marvel, Spider-Man, Captain America, Dr. Doom and the associated characters and names are trademarks of the Marvel Entertainment Group, Inc. and are used with permission. The AMAZING SPIDER-MAN AND CAPTAIN AMERICA IN DR. DOOM'S REVENGE is produced under license from the Marvel Entertainment Group.

IRENE SOFTWARE

ADD AN 800K DISC DRIVE TO YOUR CPC



Our 80 track double sided 3.5 inch disc drive will allow you to store 800K on a single 3.5 inch disc. The drive is a slimline 1 inch high citizen mechanism (as used on the Amiga and ST) and comes complete in a steel casing and with a power supply and cable to connect to the computer (please specify 464/664/6128). We have three different software packages that complete the system, RAMDOS & ROMDOS by KDS software (ROMDOS is a ROM version of RAMDOS) or RODOS by ROMANTIC ROBOT. 464 owners must already own a first drive and interface before they can use our drive.

NEW LOW PRICES! SAVE £15.00 ON ALL DRIVES

Disc drive with RAMDOS	£109.99
Disc drive with ROMDOS	£119.99
Disc drive with RODOS.....	£119.99
Blank 3.5 inch disc.....	£1.00
ROMBOARD (holds 6 ROMS).....	£24.99

All prices include VAT and postage

TELEPHONE
061 228 1831

VISA

84-86 PRINCESS ST. MANCHESTER M1 6NG.

1984

NEMESIS - The Original Meddlers

1990

GREETINGS !

Here, at NEMESIS, we have always believed that the owner of an original item of software has the perfect right to do what the hell he/she likes with it - provided that by doing so the Copyright Owner is not deprived of another source of income. Many fair-minded people agree with this; if you have thirty thousand BACK-UPS of MANIC MINER they'll do nobody any harm provided that they remain in your hands. NEMESIS utilities, well known for their power in backing-up the majority of software are still available - and are fully up to date in their capability. An "extreme" interpretation of the new law means that you may need the permission of the Copyright owner to make a BACK-UP, but you'll need the means to do it ! On the basis that you may need such permission, we offer the utilities SHOWN ON THE RIGHT. If you have doubts about your right to make back-ups, then don't !

NEW

MAXIDOS

NEW

Compatible with RAMDOS and ALL standard formats.

Our "regulars" were screaming for an all purpose disc utility that could be used with RAMDOS. Kevin got to work and produced the answer - fully compatible with RAMDOS and all "standard" formats. Does all this and more:

SECTOR EDITOR.
DIRECTORY EDITOR.
FORMATS.
FORMAT IDENTIFY.
STRING SEARCH.
BYTE SEARCH.
FILE RE-ORGANISE
KILL ERASED FILES.

FILE COPYING.
DISC COPYING.
FILE MAPPING.
FILE STATUS EDITOR:
RENAM
ERASE
UNERASE
SET STATUS

Make the most of RAMDOS using **MAXIDOS**.

B/BOARD INFO **CYNOTEL 01 346 2816** [1200/75]

BONZO SUPER MEDDLER

With details of over 1,000 tape to disc transfers

"A REAL ALTERNATIVE to a Multiface II BLACK BOX", A.A. JAN'89.
"The best TAPE TO DISC transfer utility available", WACCI 6/88.

BONZO BLITZ - ULTRA-TRICKY TAPES TO DISC.

"HIGHLY RECOMMENDED" - WACCI 12/87.

CPC PROCOPY & MINIDOS

The most recent and best utility for disc-housekeeping. Back-ups, file transfers, status changes, and much more !

Includes the Fastest File Copier Ever!

EACH DISC £13.75 inclusive.

ANY THREE £37.00 inclusive.

UPGRADES BSM or BLITZ, £3.00 [return original disc]

NEMESIS A.A

ALL ORDERS sent by return: Cheque/P.O/Access

TEL: (0933) 623967

10, Carlow Road, Ringstead, Kettering, Northants NN14 4DW

AUSTRALIA: C. BOSWELL, 62 MARMONG STREET, MARMONG POINT 2284, NSW.



Free for all!

The response to last month's item on David Wild's *Desk* was staggering. JERRY GLENWRIGHT brings you not only the address of the man himself, but yet more treats from the public domain...

● Rank and file

Word and document processing may be the largest use to which personal computers are put, but what do you think comes second on the list? Games, spreadsheeting, education perhaps? Not a bit of it. The second largest use for the humble micro is the database. Everyone from housewives to parish priests need to keep files of information which they can access, sort and store easily and efficiently – witness the rise of the Filofax during the last decade. So what better use for your friendly little CPC than to have it take all the hard work out of cataloguing stamp collections, keeping track of computer club memberships and helping you bring order to your burgeoning collection of train numbers?

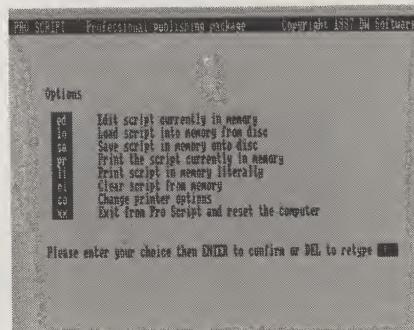
Datafile, a public domain database written in BASIC, is one of the best databases around. The programming is fully menu driven and idiot-proof, and enables you to create huge databases containing many data items and sort and retrieve them at the touch of a button. To

start a new database, you decide how many fields each record is to have (a field is one piece of data that makes up a record, i.e. a name and address record might have Name as

one field, Address as another and Tel: as one more). *Datafile* will allow records consisting of up to 16 separate fields and each field can be up to 60 characters long, so there's plenty of

DW DOCUMENT PROCESSOR

I've had a fantastic response to last month's review of the ST-lookalike program *Desk*, by David Wild, with many of you clamouring to get hold of a



● Proscript's comprehensive main menu.

copy. We've managed to track down the prolific Mr Wild and you can find his address and telephone number in the *Where To Go* box at the end of this feature. And because David Wild's work proved so popular, I'm going to kick off this month's PD column with a look at *ProScript*, a word processing program from Wild's PD Library, DW Software.

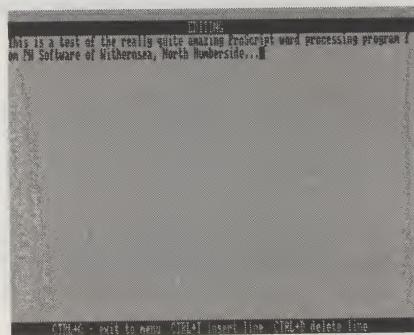
A couple of years ago, document processing became a popular buzz-word in the computer industry. Somewhere between ordinary word processing and full-blown desk top publishing, document processors enable you to create fancy letters, menus, party invitations, business cards and the like, without learning complex DTP principles.

ProScript is a document processor for the CPC – and everything from ordinary text cut and paste to delicate kerning and leading operations can be performed within its environment! The program opens with a menu offering such options as editing a document (i.e. creating a new document), loading an existing document from disk, saving a document to disk, printing and so on. Electing to edit a document brings up a text window with an information bar at the top of the screen and several command options listed along the bottom. To create a letter, menu, party invitation or whatever, you simply begin typing. Any character or word can be prefaced by a style instruction such as change font (Times, Pica and many more), centering, embolden, underline and so on. The bottom command bar enables you to return to the main menu at any time simply by pressing a control key combination (CTRL Q), and from here you can also

insert or delete a line.

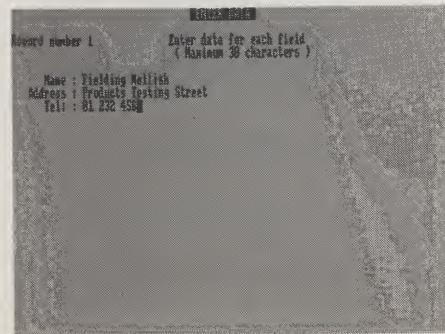
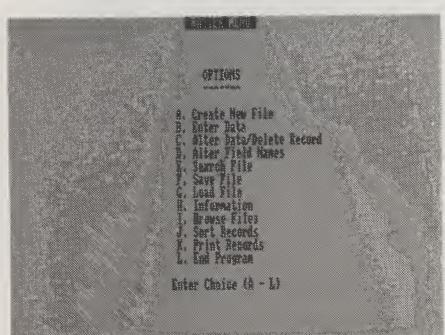
Moving around your document is no more difficult than using the cursor keys, and printing is a simple matter of returning to the main menu and selecting either a literal or normal print. The former prints your document with all style and positional information. The latter outputs exactly what is on your screen to the printer minus any style commands.

One of the most exciting features of *ProScript* is its ability to print text in several columns simply by stating where you want to start subsequent columns on the page – in effect resetting the left margin. In order to print multi-column documents easily you need access to an Epson or compatible printer that can handle reverse line feeds. But you can still take advantage of the feature by marking where the next column should start with a pencil and manually repositioning the paper in the print-



● Proscript offers full word-processing power.

er. A drag, right? But at least those of you without Epson printers don't miss out on the goodies, so don't complain. Other wow effects include justification and automatic formatting, proportionally spaced text, underlining, inverting, kerning and leading and 17 fonts which can be used anywhere on the page. *ProScript* really is the ultimate in upmarket word/document processing and is available for... not very much. Not £29.99, not £14.99, not even ten quid! No Missus, to you, only £8. It isn't PD, but it's so cheap, who cares? And because *ProScript* isn't public domain, you get a complete paper-based manual included in the price. Novelists, hacks and the plain interested should beat a path to the *Where To Go* box right now (why are the 'interested' always described as being plain?).



● Datafile offers extremely simple record entry.

scope for quite complex data to be stored efficiently.

After deciding the number of fields in a record and their character lengths, you're prompted for the names of each field, then returned to the main menu. From here, you can start to enter data. Selecting Enter Data produces the first field name as a prompt. You type whatever information you wish to store and are then prompted with the second field and so on. Simple, huh? At any time, you can change the names of fields by simply typing over their names.

The database can be sorted using any field (surname for example), printed either in whole or single records and you can view one record or browse through the entire database using the cursor up and down keys.

Datafile is a simple – yet powerful – database that is a pleasure to use, even for large amounts of data. The program supports all printers and is public domain (I downloaded it from the TUG II bulletin board). If the ephemera of your life is currently overflowing half a dozen cardboard shoe boxes, then **Datafile** is the program for you.

● Drop the bomb

Timebomb is a little PD game with one very special added ingredient – fun! The action takes place on a full screen grid of 'buttons' with skull and crossbones dotted around and one timebomb.

At the beginning of each round you're placed at random on the screen and must get to the timebomb before the fuse burns down and the bomb explodes. Sounds easy? Well it isn't. Each time you pass over a button it is blanked out and you're not allowed to pass over it again. This severely hinders your movement around the screen. And if you inadvertently touch any of the skulls and crossbones you're killed instantly.

WHERE TO GO

- **WACCI UK**, 9 South Close, Twickenham TW2 5JE. Telephone 01 898 1090. As well as being a public domain library, WACCI is a fanzine of truly singular quality. Bung a couple of quid to 9 South Close and you'll receive a sample issue with the PD lists contained therein. But do it today, because the WACCI library is a CPC-specific library second to none in the UK.
- **DW Software**, 62 Lascelles Avenue, Withernsea, North Humberside HU19 2EB. DW is the source of the marvellous WIMP environment desktop reviewed last month, as well as an gargantuan grab bag of other quality programs. Six clams will get you a PD disk positively bulging with superior software.
- Got a cassette-based system, and feeling left out of the fun? Tough! No, no, don't shuffle away sulking. Send a blank cassette and 40 new pennies to Robot PD library – the only cassette-based public domain library in the known Universe – and you'll receive a tape jammed packed with goodies. If you're one of those retiring careful types who consider the idea of sending off 40p! to an unknown address absolutely outrageous, you can send for a free catalogue by contacting the above address (at least include a stamped addressed envelope, huh?).
- The **CP/M User Group**, 72 Mill Lane, Hawley, Dartford DA2 7RZ. The best CP/M user group in the UK and they have lots and lots of quality PD. Bung them a few quid for a copy of the latest newsletter.
- **TUG II** 0905 775191 V21/22/22bis/23 8N1. A bulletin board with a lively CPC section and a large amount of downloadable code. The board operates for 23 hours a day (what's this guy doing for the other hour?), so you should be able to make contact.

After clearing several screens of bombs, you're given the chance to earn some bonus points by collecting a timebomb on a special screen. This time, you simply hurtle along the very top of the screen. There's a row of death's heads at the bottom with one space occupied

by the bomb. You must send your little character spinning down the screen at just the right moment to collect the bomb. Slightly early or late and you'll drop straight onto one of the waiting skulls. Lots of fun and very addictive.

● Twist or Stick?

Arcade action is exciting, but sometimes you just want to sit back and think about what you're doing. **Pontoon** enables you to do exactly that. Not much to say about the game except that it's another one of David Wild's creations, there's a full screen graphical representation of the playing cards and the computer plays a thoughtful and strong game (my 6128 won every Swan Vesta in the box!). Screen updates are fast so you can get on with the game without having to wait for the cards to be drawn. **Pontoon** is on PD Disk 2, from DW Software.



● Timebomb's between-level bonus screen.

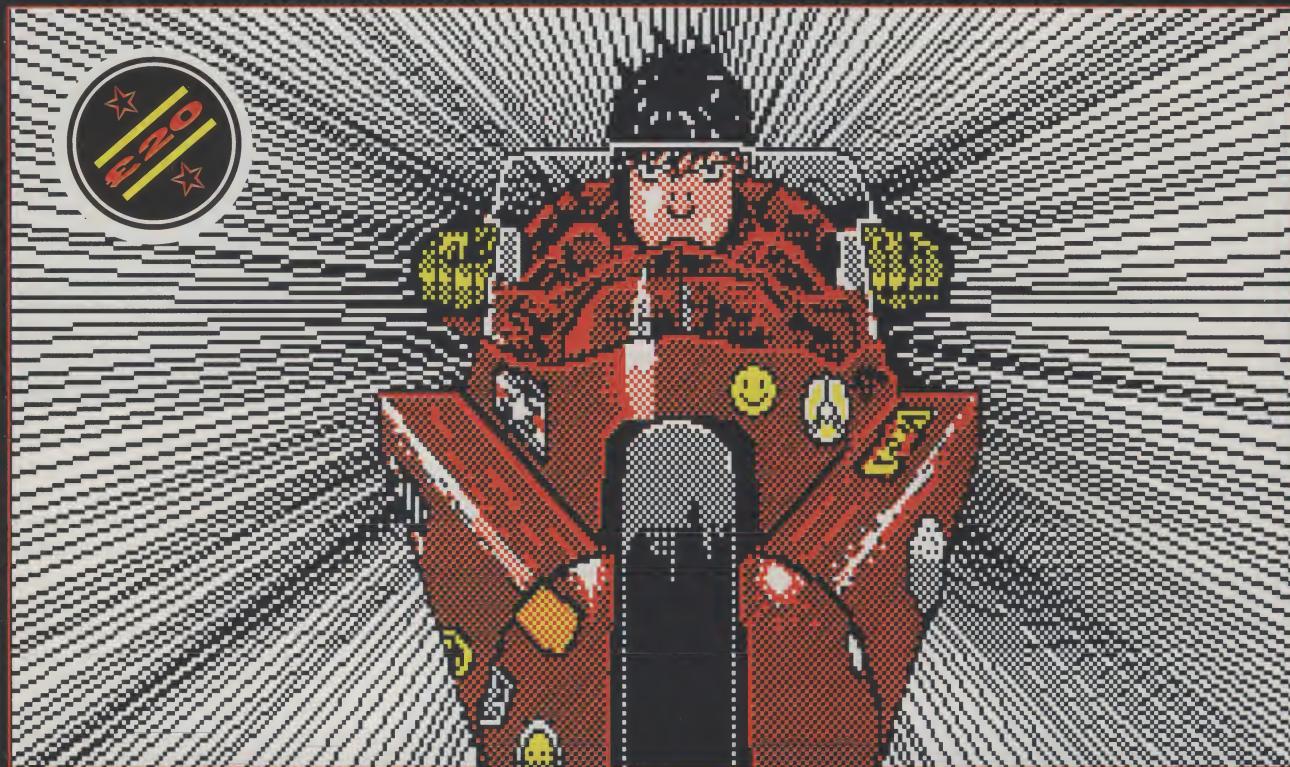


● Can you reach the timebomb in time?

DOING THE BAUD-WALK

PD is free sure, but you do have to pay quite heavily for the cost of disks and reproduction. Isn't there a way to bypass even those charges? Well, it just so happens that there is, but you need to have a modem. Astute readers will by now have digested the solid information contained in last month's comms feature, but for those of you recently back from a tour of Outer Mongolia (we get there too, but about a month late...), here's one of the benefits of taking an interest in comms: you can download public domain software free! That's right, no disk or duplication charges. Bulletin boards are free too, so what's the catch? Unfortunately, you do have to pay for telephone calls and Ma Telecom doesn't exactly indulge her subscribers, but if you're wise and only log on during the hours of darkness, you should be able to swell your PD collection without incurring too much expenditure. The AA listings appear on many of the boards too, so you can download those and save yourself the trouble of all that typing. Bulletin boards – just one more way to get your hands into the wonderful world of public domain.

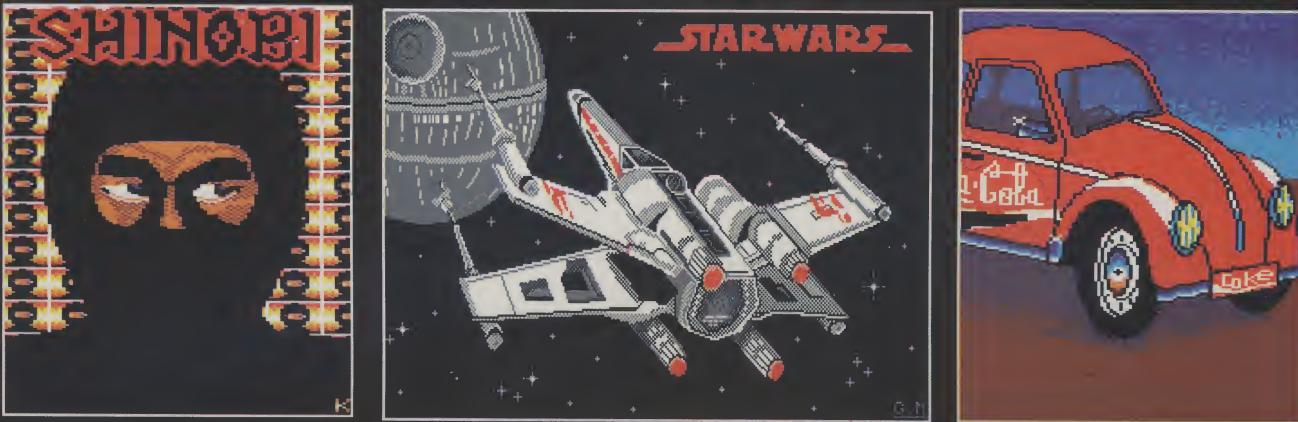
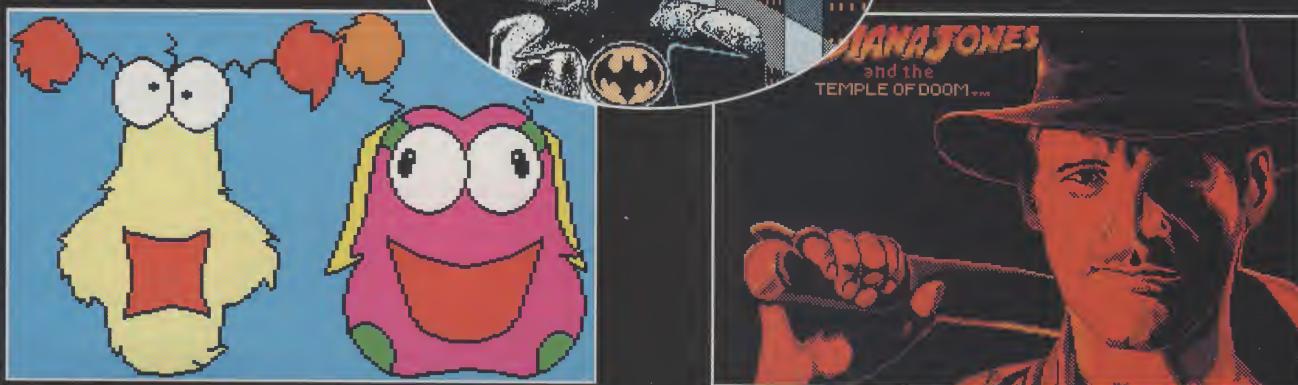
GALLERY



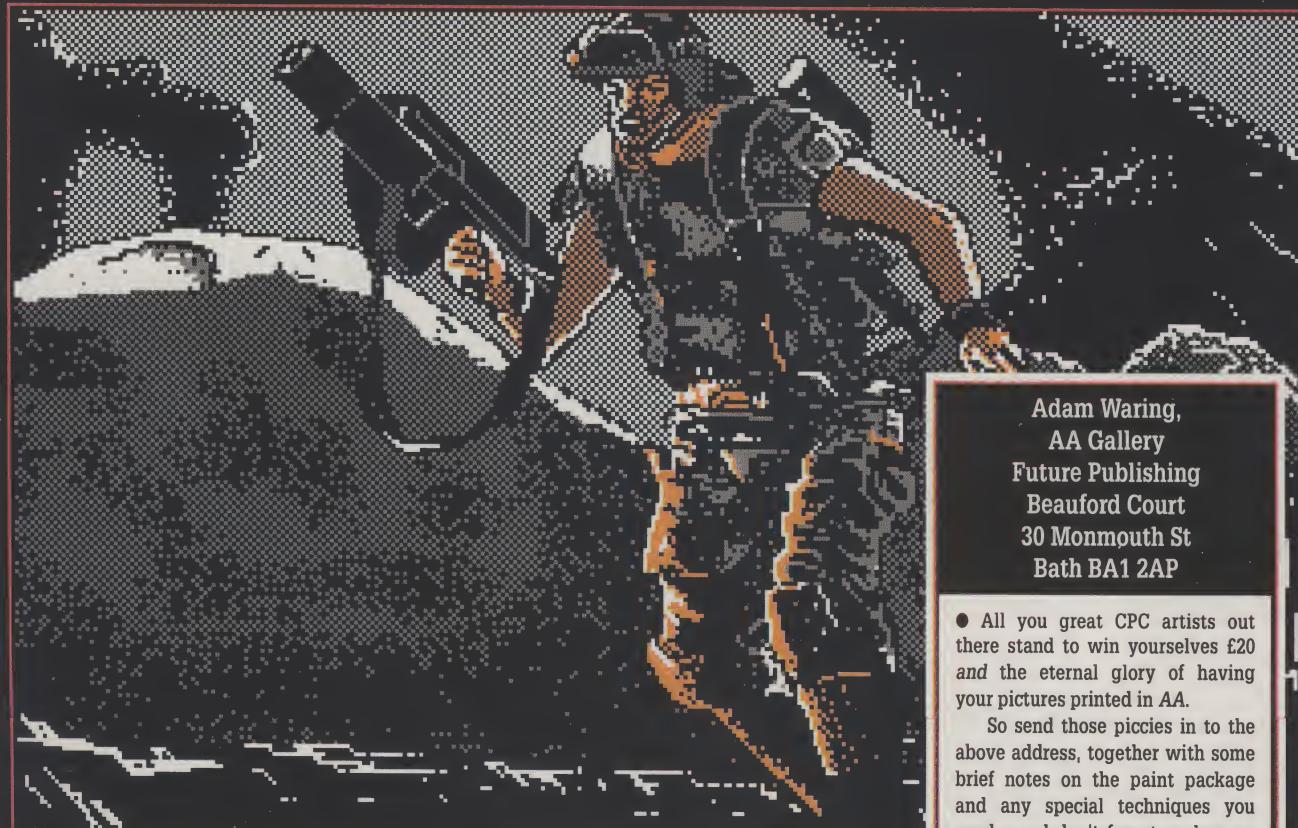
● Fans of the Japanese comic will instantly recognise Martin McCanney's *Akira*. He uses the ever popular *Advanced Art Studio* for all his pictures.



● The loveable rogue was drawn by Tim Paul of Lichfield, Staffordshire. The mutated mega-hero is an *AMX Stop Press* creation.



● Gary Marshall from Swanwick, Derbyshire, must be a Harrison Ford fan. He drew the *Star Wars* and *Indiana Jones* piccies. *Batman* and *Zig & Zag* come once again from Martin McCanney. The *Beetle* comes from Adam Lewin of Harrogate, and the *Shinobi* picture from David Knight of Birmingham.



Adam Waring,
AA Gallery
Future Publishing
Beauford Court
30 Monmouth St
Bath BA1 2AP

● All you great CPC artists out there stand to win yourselves £20 and the eternal glory of having your pictures printed in AA.

So send those piccies in to the above address, together with some brief notes on the paint package and any special techniques you used - and don't forget enclose an SAE if you want your disk back.

● Martain McCanney of Co. Dublin, Ireland has been very busy indeed this month. His final contribuiton is Hicks from *Aliens*.

A SMALL SELECTION FROM OUR WAREHOUSE

HARDWARE & PERIPHERALS (OFFERS WHILE STOCKS LAST)

	RRP	WAVE	
Amstrad CPC464 Green with joystick & software	199.99	177.96	ANC
Amstrad CPC6128 Green with joystick & software	299.99	269.95	ANC
Romantic Robot multiface 2+ - CPC	47.95	35.96	E
MP-2 modulator/power supply - CPC464/664/6128	29.95	PHONE	C
CT-1 Clock/Radio (matches MP-3 Tuner) - CPC464/664/6128	8.49	8.49	C
DDI-1 1st 3" drive inc. interface & cable - CPC464	159.95	127.97	B
PLI lead, printer centronics parallel - CPC/+3/+2A	14.95	7.48	F
Star LC10 parallel F&T NLQ printer (reqs. PLI lead)	297.85	152.74	A
Genius Mouse & adv. art studio disc + mat & house - CPC	49.99	44.99	D
RAM/DK'tronics 64K RAM expansion - CPC464/664	49.95	38.96	C
Amstrad 40025 O.S. chip to upgrade 464/664 to 6128	29.56	E	
Amstrad C510 Computer desk	25.00	12.50	ANC

DO YOU WANT TO SAVE MONEY, THEN SEND FOR OUR TRADE PRICE LIST

STATE FOR WHICH PRODUCTS AND ENCLOSE 3 20P STAMPS
BLANK DISCS & SOFTWARE

Any 3 tapes for £5.64 + £1.74 P & P

World Class Leaderboard, Auf Wiedersehen Monty, Summer Games, Spy Hunter, World Games, Gauntlet 2, Fantasy World Dizzy, Pub Trivia Sim; BMX Sim. 2, Monty Carlo Casino, Arcade Flight Sim; Frankenstein Jnr; Wizard Wille, Moto X Sim; Pro Powerboat Sim; Pro BMX Sim; Fastfood, Treasure Island Dizzy

MAXELL 3" DISCS BOX 10 DS FOR ALL 3" DRIVES + FREE PRICE LIST

RRP £29.90 ONLY £17.64 + £1.15 P&P

Database Mini Office 2 Disc - CPC	19.95	11.97	E
OCP Advanced art studio disc - CPC	22.95	16.07	E
Amsoft 3" Discs DS/ALL 3" Drives + FREE price list	Box 10	29.90	20.63
Verbatim 3.5" DS/DD 135 TPI Bulk Discs C/W Labels	Pkt 10	25.00	8.75
Verbatim 5.25" DS/DD 40/80T Bulk Discs C/W Labels	Pkt 25	27.27	7.36
Amstrad Amscave Library case holds 10 3"		7.95	3.58
Ams30L Storage box holds 15 cased/ 30 uncased 3"		14.95	7.90
Datafile 80 Storage Box holds 50 3"/80 3.5"		23.77	6.54

Eng. Mainland post & ins. : (A)£5.75 (B)£4.60 (C)£3.45 (D)£2.30 (E)£1.15 (F)58p (ANC) 3 Day £10.35 Next Day £13.80, COD + £2.30, Max. UK post chg. £6.90 per 20kg/£500. ALL PRICES INCLUDE VAT.

All sales subject to our Trade Terms of Trading.

W.A.V.E. (Trade Dept. AA 490)

WALNEY AUDIO VISUAL & ELECTRICAL DISTRIBUTION,
1 Buccleuch Street, Barrow-in-Furness, Cumbria, LA14 1SR.
Tel: 0229-870000 (6 lines) Hours: Mon-Fri 10.00-5.00.

ASTROLOGY for beginners

Teach yourself astrology using your Amstrad

Buy a Starter pack comprising a simple program to calculate a horoscope, an introductory booklet and 2 self-teaching programs (how to interpret the horoscope).

ONLY £12.50 No previous knowledge required

For ALL Amstrads (CPC, PCW, PC, PPC)

Payment by Access / Visa, Cheque, P.O. Please state make of computer or send s.a.e (about 9" x 7") for free catalogue giving details of our wide range of programs for

PROFESSIONAL ASTROLOGERS

including complete natal interpretations and forecasting.
Also I CHING, GRAPHOLOGY, BIORHYTHMS, etc.

ASTROCALC

(Dept A/A) 67 Peascroft Road, Hemel Hempstead, Herts HP3 8ER England. Tel: 0442 51809

STRATEGY SOFTWARE

Strategy games for the Amstrad CPC

BATTLE OF THE BULGE is a simulation of the last major German offensive in the west when they attacked the allied forces. The options are 1 or 2 players with over 140 units involved. The types of units are corps, infantry, motorised infantry, armoured, anti-tank, artillery and cities. The size of these are divisions and Regiments, and have ratings for strength, quality, provisions, fuel and moves. There are also different weather conditions, supply and air phase, save game and a detailed manual. All of this is set on a scrolling map which has different terrain. Map size is 40 x 40.

OPERATION BARBAROSSA - simulation of the war between Germany and the Soviet Union which started on June 22, 1941. There are four different armies which are German, Rumanian, Finnish which represents the Axis; and against these are the Soviets. Options are 1 or 2 players. There are over 130 units. Unit types are infantry, motorised infantry, corps, armoured and cities. Ratings for strength, quality, supplies, fuel. Each turn represents one week with four seasons, summer, autumn, winter, spring. Air phase, Supply phase and Winter phase. Save game. Details manual. All of this is set on a scrolling map which is 43 x 47 and covers the Eastern Front from Warsaw to Stalingrad and from Helsinki to Bucharest. Terrain features are sea, rivers, mountains, marshes, cities.

CANNAE 216 BC - is a battle between the Carthaginians and Romans in Southern Italy in August 216BC. Options are 1 or 2 players with 50 units involved. Types of units are light infantry, heavy infantry, light cavalry and heavy cavalry. These have different ratings for strength, quality, morale, fatigue and moves. Each turn represents one hour. All of this is set on a scrolling map which has different types of terrain and is 25 x 27. Also save game option and a detailed manual.

THE FINAL CONFLICT - conflict between Nato and the Warsaw pact in Europe.

SOCER 6128 - football strategy game manage any team in the four divisions.

KURSK THE CLASH OF ARMOUR - WW2 battle between the German and Soviet armies.

SOFTWARE HIRE CLUB - we hire out games. Send large S.A.E. for details.

BATTLE OF THE BULGE	£8.00 (disk)	£7.00 (tape)
OPERATION BARBAROSSA	£8.00 (disk)	£7.00 (tape)
CANNAE 216 BC	£8.00 (disk)	£7.00 (tape)
THE FINAL CONFLICT	£8.00 (disk)	£7.00 (tape)
SOCER 6128 For 6128 only	£8.00 (disk)	£7.00 (tape)
KURSK the clash of armour	£8.00 (disk)	£7.00 (tape)

State machine type. Add 60p outside UK or £1.60 outside Europe per game.

Cheques or Postal Orders Payable to STRATEGY SOFTWARE

Send to - STRATEGY SOFTWARE (AA), 32 ALBERT STREET, SEAHAM, CO DURHAM, SR7 7LJ.

Soft Exchange

MAIL ORDER ONLY

01 653 0534

MAIL ORDER ONLY

£1.45 EACH OR 3 FOR £3.99

Blood Valley
Indoor Sports
Biggles
3-D Chess
G. Capes
Strongman
Ninja Massacre
Motor Massacre
BMX Simulator
Adv. Pinball Sim.
Super Hero
Big Foot
G. Prix Sim.
Pro-Ski Sim.
3-D Starfighter
Death Stalker
Fruit Machine
Mission Jupiter
Int. Rugby Sim.
A.T.V.
Pro-Snooker
Planet of Death
Souls of Darkon
Inca Curse
Starion
Shockwave Rider
Jockey Wilson's
Darts

Max Headroom
Impact
Armageddon Man
Yes Prime Minister
Rally Simulator
Shadowy Swimmer
123
Hit Squad
Yogi Bear
SAS Combat
Elevator Action
Antriad
Thurst
SAI Combat
Codename Mat
World Games
BlackBeard
Alien Break In
Into Oblivion
Feud
Avenger
Master of Lamps
Future Knight
Micro Value 4
European S.A. Side
Zynaps.

CASSETTES ONLY

Thunderbirds £4.99
Con. Circus £4.99
Ninja Warrior £5.99
Galaxy Force £5.99
Powerdrift £6.49
Shinobi £6.49
Nemesis £6.49
Cluedo £2.99
Monopoly £2.99
Scrabble £2.99
Scaxeltric £3.49
Samurai Warrior £3.49
Bubble Ghost £2.49
Rex £2.49
Running Man £3.99
Wizard Wars £2.99
Renegad 3 £3.99
Wizball £3.99
F. Manager £3.49
Super Hang On £2.99
Thunderblade £5.49
Super Sports £2.99
Pacland £4.99
Bionic Commando £3.99
Netherworld £2.99
G. Prix Selection £5.99
Titan £3.49
Hercules £2.99
Victory Road £3.99

Dragons Lair 1 £3.99
Dragons Lair 2 £3.99
Last Duel £6.99
Road Runner £6.99
Jack the Nipper £2.99
Bedlam £2.99
Run the Gauntlet (c) £6.99
Blasteroids £6.99
Evening Star £2.99
Nexus £2.99
Star Raiders II £1.99
Not a Penny More £2.99
Gargoyle Classics £2.99
War in Middle Earth £6.99
Arcade Force 4 £6.99
Rod Pykes Collec. £4.99
Go Crazy (6 games) £4.99
Flight Ace (4 games) £4.99
Driller £2.99
Pyroword £2.99
Stiff Lip & Co. £1.99
Melbourne Draw £2.99
The Sydney Affair £2.99
Max Headroom £1.99
Football Man 2 £4.99
Outrun £4.99
Gemini Wing £4.99
4 Soccer sim £3.99
Afterburner £4.99
Barbarian £3.99
Druid 2 £1.99

GAMES ON DISC

6 Pack Vol 3 £9.99
Afterburner £7.99
Galaxy Force £7.99
Real Ghostbusters £7.99
Overlander £6.99
Hopping Mad £6.99
Shinobi £9.99
Altered Beast £9.99
Super Scramble £9.99
Basketball £9.99
Baseball £9.99
Classix 1 £8.99
Navy Moves £11.99
Chap. Sprint £12.99
Movie £4.99
Eye £4.99

CASS DISC

Beverly Hills Cop £6.99 £10.99
Bloodwych £6.99 £10.99
Cyberball £6.99 £10.99
Myth History in Making £6.99 £10.99
P47 Thunderbolt £6.99 £10.99
Rainbow Island £6.99 £10.99
The Champ £6.99 £10.99
The Biz £11.99 --
Kick Off -- £11.99
Chase H.Q. £6.99 £10.99
Ind. Jones Last Crus. £6.99 £10.99
Turbo Outrun £11.99 --
Batman the Movie £6.99 £10.99
Super Wonderboy £6.99 £10.99
Ghouls 'n' Ghosts £6.99 £10.99
Op. Thunderbolt £8.99 £11.99
Wild Streets £8.99 £12.99
100% Dynamite £10.99 £1.99
Complete Games Centre £7.99 £10.99
Hits £10.99 --
House Mix £7.99 --
In Crowd £10.99 --
Oriental Games £6.99 £12.99
Star Wars Trilogy £12.99 £16.99
Story So Far 2 £10.99 £12.99
Story So Far £10.99 --
The Bizz £10.99 --
Thrilltime Gold 1 £7.99 --
Thrilltime Gold 2 £7.99 --
We Are Champions £10.99 £12.99

Maxell Blank Disc
£2.25 each or
£20.99 for 10

AMS 30L Storage Box
£10.99

Orders under £5.00 add 50p P&P. Send Cheque/P.O. to:

Soft Exchange
101 Clifton Road, South Norwood
London, SE25 6QA

ROMANTIC ROBOT present

RESET

Multiface two

If you wish to FREEZE a program any time, BACK it UP to disk/tape, automatically, at a touch of a button, then the **MULTIFACE TWO** is the **ONE and ONLY** answer! It is extremely simple to use, idiot-proof, menu driven with on-screen instructions, 100% reliable - **PURE MAGIC**... Just RUN any program, STOP it by the **FREEZE** button, **SAVE PROGRAM** to disk/tape or use built-in **MULTI-TOOLKIT** to study. POKE infinite lives, ammo, etc. When you **RETURN** to the program or **RELOAD** it next time, it will automatically **CONTINUE** from where frozen. You **DON'T** need to do **ANYTHING** - just push the button, name the program, insert disk/tape and press a few keys. **MULTIFACE** works on **ANY CPC** needs **NOTHING** extra, but in order to prevent piracy, it must be attached to your CPC to RUN the programs it **SAVED** - see the box below!

NOW ON SPECIAL MAIL ORDER SALE at just £42.95!

£10 OFF the
MULTIFACE 2

Do you need to know what happens **ANY TIME** INSIDE a **RUNNING** CPC program? Get **INSIDE INFORMATION**! Install **INSIDER** into **MULTIFACE 2**, RUN a program, let **Multiface FREEZE** it and the **INSIDER** tell you everything: it fully **disassembles**, **finds** text or code, **shows** **alters** **RAM** and **Z80** registers, **dumps** to printer, etc. All this and more for £14.95, Now on **SALE** for just £9.95! Invaluable tool for machine code users! A unique de-bugging/development aid. The **INSIDER** has no use for piracy - see the box below!

ROMANTIC ROBOT
THE INSIDER

£5 OFF

THE
SYSTEM

Rodos
SYSTEM

Would you like to be able to store up to 800K single sided 5.25" or 3.5" or 3" inch - and 50 new hard SILICON DISK drives? All controlled by a powerful ROM - and have up to 800K per disk. Get a powerful ROM - and offer RODOS EXTRA for just £9.95. Now also available: RODOS EXTRA for disk applications. Any RODOS owner: RODOS EXTRA for disk applications. It offers nearly 200K with valuable information how to get it. It also offers RODOS EXTRA for disk applications. ranging from simple to complex such as a DISK READER. The indispensable EXTRA! IBM MSdos DISK

£10 OFF

You MUST NOT use any of the above products to copy, reproduce or infringe in any way any copyright material without the clear permission of the copyright owner. We do neither condone nor authorise the use of our products for the reproduction of copyright material - to do so is ILLEGAL!

KRAZY! £10 OFF the MULTIFACE and RODOS! £5 OFF the INSIDER!

I order a Multiface £24.95 **£37.95** Rodos £29.95 **£19.95** Rodos Xtra £9.95 **£6.95** Insider £14.95 **£9.95** + p&p!: UK £1, Europe £2, Overseas £3.

I enclose a cheque/PO/cash for £..... or debit my Access/Visa No. Card Exp.....

Name/address.....

The above reduced prices apply strictly only to MAIL ORDERS received by 31.3.1990.

ROMANTIC ROBOT UK LTD 54 Deanscroft Ave, London NW9 8EN 24 hrs 01-200 8870

3 1/2" DISC DRIVE ONLY £79.95

800K STORAGE PER DISC

Because the 3 1/2" disc is now the industry standard, their cost is getting lower all the time. CHECK OUR CURRENT PRICE! You can take advantage of this with our top brand TEAC 3 1/2" drive. Using it together with either ROMDOS, RAMDOS or RODOS, you can store 800K of files on each disc, and without even having to turn it over.

In its sleek white case the drive measures a mere 6 3/4" x 4" x 1 1/4" (including its feet) and is supplied with

ROMDOS (rom) £29.95
RAMDOS (disc) £24.95
RODOS - see Romantic Robot
3 1/2" DISCS 10 for £7.50
(carriage free on these items)

NOTES

RAMDOS must be used for CAM work - RAMDOS is supplied with ROMDOS.

PROTEXT and RODOS don't work correctly together.

464 Only The amazing
ROMBOARD XTRA
Including
6128 UPGRADE SOCKET

FEATURES
plus -

plus -
plus -
plus -

ALL THIS FOR JUST £20
6128 ROM £22.50
64K RAM PACK £49.95

leads and power supply. All that you have to do is plug it in and use it.

Please state 464, 664 or 6128 when ordering. This drive is NOT suitable as a 1st drive on the 464.

NOTES

3 1/2" discs do not turn over like the 3" ones. The drive uses both sides but to you it looks like 1 huge side.

EPROM PROGRAMMER

only £30 inc. p&p

Create your own ROM based software on 16K, 8K, 21V & 12.5V EPROMS. Easy to use, menu driven software. No external power supply needed.

DEPT. AA, 212 DUDLEY HILL ROAD,
BRADFORD, BD2 3DF.

tel: 0274 636652 (after 2pm).
Prestel mbx. 219999114

MICROSTYLED

DISCOUNT SOFTWARE

from M.J.C. SUPPLIES

DISC GAMES

MJC SPECIAL
Gazza's Super Soccer
RRP £14.95. Our Price £9.95
Offer ends 31/03/90

After the War	10.95
Batman The Movie	10.95
Carrier Command	12.95
Chase HQ	10.95
Coin-Op Hits	14.95
Double Dragon	10.95
Fiendish Freddy	10.95
Ghostbusters II	10.95
Hard Drivin'	10.95
Jack Nicklaus Golf	12.95
Knight Force	10.95
New Zealand Story	10.95
Powerdrift	10.95
Scapeghost	14.95
Scrabble De Luxe (6128)	10.95
Snoopy	10.95
Star Wars Trilogy	14.95
Super Wonderboy	10.95
Tolkien Trilogy	12.95
Turbo Outrun	10.95

CORNIX SOFTWARE

CARD INDEX:

An easy to use card index type data retrieval program. Ideal for basic database requirements

CASS: 19.95 **DISC: 24.95**

JOB ESTIMATOR:

Aimed at the small contractor who needs to provide estimates quickly and neatly. Ideal for small builders, bricklayers, plasterers etc.

DISC ONLY: 39.95

PRODUCT COSTING:

Similar to Job Estimator but aimed at manufacturers or those producing a product for sale.

DISC ONLY: 39.95

Full specifications of all Cornix Products available free of charge upon request

EDUCATIONAL

Animal, Mineral, Vegetable	11.95
World Wise	11.95
Answerback Junior Quiz	11.95
Factfile's (require Answerback Quiz)	
Arithmetic (6-11 yrs)	7.95
Spelling (6-11 yrs)	7.95
Sports (6-11 yrs)	7.95
Fun School 1 10 programs per disc	
For 2-5 years	7.95
For 5-8 years	7.95
For 8-12 years	7.95
Fun School 2 8 programs per disc	
For 2-6 years	9.95
For 6-8 years	9.95
For 8-12 years	9.95
French Mistress (12-adult)	15.95
German Master	15.95
Spanish Tutor	15.95
Italian Tutor	15.95

DISC SERIOUS

Protext	17.95
Propspell	16.95
Promerge	16.95
Arnor Filer	18.95
Arnor Office Suite	26.95
Tasword 6128	23.95
Taspell	12.95
Taspint	10.95
Tascopy	10.95
Tasdairy	10.95
Tassign 6128	23.95
Qualitas Plus V.2	14.95
Qualitas Font Library	11.95
Qualitas CPM + Utilities Disk	8.95
Masterfile III Database	29.95
Mastercalc 128	25.95
Matrix Spreadsheets Plus	29.95
Stockmarket	25.95
Stop Press Desktop Publishing	34.95
Extra Extra	19.95
Maxarn (Assembler/Diss)	18.95
Poke Easy Plus	14.95
Mini Office II	13.95
Rodos Extra Disk	8.95
Advanced Art Studio	19.95

ACCESSORIES

DKT 64K Memory Expansion	45.95
AMX Mouse + Interface	39.95
Multiface II Plus	42.95
Printer Lead 1M	8.95
Printer Lead 1.5M	9.95
Printer Lead 2.0M	10.95
3" Disc Head Cleaner	6.95
Amstrad RS232 Interface	55.95
Mono Screen Filter	12.95
Colour Screen Filter	14.95
Comp Pro 5000 Joystick	13.95
Quickshot Turbo Joystick	9.95
Cruiser Joystick	9.95
464 Monitor Extension Leads	6.95
6128 Monitor Extension Leads	7.95
1000 Fanfold Labels	6.95
Second Drive Lead	7.95
AMX Mouse + Art Software	59.95
AMX Mouse + Stop Press	69.95
464 Dust Cover (Mono or Colour)	7.95
6128 Dust Cover (Mono or Colour)	7.95
KDS 5.25" 800K, Disc Drive (state 464/6128)	149.95
KDS 8 bit Printer Port	18.95
Advanced Art Studio + Mouse	49.95

Quali Pack V.2

The Print Enhancement Package

Qualitas Plus V.2

KDS 8 Bit Printer Port

R.R.P £36.90

Package Price £31.95

Quali Pack Extra V.2

Qualitas Plus V.2

KDS 8-bit printer port

Qualitas font library

RRP £51.85 Our Price £41.50

PRINT COLOUR GRAPHICS!

At last it is possible to get colour screen dumps from a 6128!

Colourdump 2 is available exclusively from M.J.C. Supplies. Will take a standard screen file from the Advanced Art Studio or created with AMX Art, and Prints out in full colour on a Star LC10 colour printer. Also works on Epson compatibles (inc. DMP 2000/2160) with coloured ribbons.

Colour Dump 2 £12.95

Advanced Art Studio £19.95

Star LC-10 colour printer £229.95

PRINTERS

All printers listed have a ten inch 80 column carriage and accept continuous or single sheet paper. They are Epson compatible and have a centronics parallel interface and are supplied with the cable required for your computer. Prices shown include VAT, delivery by Royal Mail Insured Parcel (which takes 7-10 days), and 12 month 'return to us' guarantee. For Courier despatch, add £5.00 For on-site 'call out' warranty, add £5.00

CITIZEN 120D

A cheap, Epson FX compatible, giving a range of text sizes and effects in draft mode, and a limited range in Near Letter Quality. £139.95

PANASONIC KXP - 1081

Well built and reliable, offers all the sizes and effects of the Citizen 120-D, but offers NLQ in all combinations. £159.95

STAR LC-10 Mk 1

On a par with the Panasonic for build, speed and NLQ combinations, but offers 4 different NLQ styles and double height as well as double width text. Great value for money £179.95

STAR LC-10 Mk II

Identical to the Mk 1 but 25% faster. £199.95

STAR LC-10 COLOUR

Based on the LC-10 Mk 1 but offers seven basic text colours. If you require colour graphics, please call first for advice. £229.95

STAR LC-24-10

24 pin version of the LC-10, offering great text output in one of five letter quality styles, available in combination with all the usual sizes and effects. Two additional effects, Outline and Shadow are also available. Call first for advice if you require graphics output. £259.95

CITIZEN SWIFT 24

Fast 24 pin offering all the usual sizes and effects from four letter quality fonts. Easy to use control panel with LCD Display. Please call for advice if you require graphics output. £359.95

CPM BASED

At Last Plus	29.95
Supercalc 2	54.95
Arnor C Compiler	39.95
Maxam II	39.95
Fortran	39.95
Nevada Cobol	39.95
Hisoft Devpac 80	39.95
Hisoft Pascal 80	39.95
Hisoft C Compiler	39.95
Iankey Two Finger Typing	19.95
Iankey Crash Course	19.95

BOOKS/MANUALS

Advanced Amstrad Graphics	7.95
Mastering Machine Code	8.95
Programming the Z80	19.95

RIBBONS

Printer	Quantity
	1 2 5
DMP 2000/2160	3.50 ... 6.00 ... 14.00
Panasonic 1080/1081	3.95 ... 7.00 ... 16.00
Citizen 120D	3.95 ... 7.00 ... 16.00
Star LC10 (Black)	3.95 ... 7.00 ... 16.00
Star LC10 Colour	5.95 ... 11.00

MAXELL/AMSOFT
CF2 Discs
10 for £25.95

PLEASE CALL FOR AVAILABILITY

ROM BASED

Protext	27.95
Propspell	22.95
Promerge +	22.95
Maxam	27.95
Maxam 1.5	20.95
Utopia	20.95
BCPL	21.95
Rodos	28.95
Cage Rom (state which I/Face)	31.95
Rombo (if purchased with ROM)	28.95
KDS Rom Board (holds 6)	24.95

CASSETTE BASED

Mini Office 2	9.95
Maxam 464	15.95
Protext 464	15.95
Tasword 464	15.95
German Master 464	14.95
French Mistress 464	14.95
Answerback JNR Quiz	8.95
Italian Tutor	14.95
Spanish Tutor	14.95

Overseas Orders Welcome - Please write for details

WE ARE NOW IN OUR FIFTH YEAR OF SPECIALISING IN AMSTRAD MAIL ORDER, OUR POLICY IS TO PROVIDE THE WIDEST RANGE AT DISCOUNT PRICES WITH A FAST TURN AROUND TIME - TRY OUR SERVICES WITH CONFIDENCE

CALLERS WELCOME: Mon-Fri 9 to 5 Sat 10 to 4

PLEASE SEND CHEQUES/POs TO:

M.J.C SUPPLIES, (AA)

40a Queen Street, Hitchin, Herts. SG4 9TS.

Tel: (0462) 432897, (0462) 420847 or 421415 for enquiries & Credit Card orders

Proprietor M J Cooper



HELPLINE

Feeling helpful? Just send your name, address, phone number (say if you don't want it printed) and subjects on which you're offering help to: **Helpline, Amstrad Action, Beauford Court, 30 Monmouth Street, Bath, Avon BA1 2AP.** Please write on a postcard or the back of a stuck down envelope and keep it short or you won't get in (or you'll get cut to 'loadsagames').

If you want help contact the appropriate Helpliner - not us. By post include a self-addressed, stamped envelope for the reply - or you won't get one. And phone only in decent hours!

Piracy is not welcome: don't try it, you'll get booted off. Keep it legal. And if you receive SAE's, for heaven's sake return them with some acknowledgement. Finally, if you want to come off **Helpline** just write in and say so.

Does anyone have the map (or photocopy) of *Head Over Heels* from AA22?
Virginia Ironside, 5 Loftus Road, London, W12 7EH.

Help wanted: educational tapes for games tapes. CPC 464-owning penpals wanted, females 20+.
John T Falconer, 80 Overton Road, Netherdurn, Larkhall, ML9 3BY.

Bards Tale Characters: includes warrior, paladin, bard and three arch-mages. Loads of experience. Send 20p and a blank tape.
Ben Sizer, 6 Greaveshouse Terrace, Huddersfield, West Yorks, HD8 0DQ.

Penpals wanted for games, swaps and help with machine code. 15+ male or female, write or phone.
Aaron Griggs, 21 Herne Down, Crowsborough, East Sussex, TN6 3BA (0892 663504).

Help on CPC BASIC and Pascal. Disk Files unerased!
Mark Wood, 52 Popples Drive, Halifax, HX2 9SQ.

Help wanted: *Nirvana, RSX-Lib*. Help given on: Multiface 2, BASIC programming, Bonzo Super Meddler and Blitz.
Aseir Magnusson, Efstasund 92, 104 Reyjavik, Iceland.

Help with comms, CP/M, disk drives, modems, Multiface 2, disk back-up, tape/disk transfers etc. Desperately want Viewdata BBS software, also penpals from anywhere.
Nick Gibbs, PO box 502, Stirling, South Australia, 5152, Australia.

Penpals in England wanted to swap games and cheats. 16 y.o., experienced 464 owner with lots of software like CRL's *Image System, Cabal, Batman, Strider* etc. Owners of *M.Office II, Pandora, Protext* and *Head Over Heels* much appreciated. Must be tape user.
Kostas Farkonas, 42 Solomou Street, 143-42 New Filadelfia, Athens, Greece.

Wanted: Datacorder and connecting lead for use with my 6128 + disk copy of 4th Birthday

covertape.
Gabriel Barta, 7 Curtis Ave, S. Hobart, Tas. Australia, 7004.

Wanted: tapes of *Type-Ins* listings from the magazine *Computing With The Amstrad*. Also any unpublished Multiface pokes.
Carl Surrey 37 Fairfield Way, Barnet, Herts, EN5 2BQ.

Has anyone got *Emlyn Hughes International Soccer* on disk to sell or swap?
Roy Butlin, 1 Broome Close, Horsham, West Sussex, RH12 4XG.

Help wanted on *Spellbound, Knight Tyme, Finders Keepers, Hobbit, Snowball, Planet of Death* and *Dizzy 2+3*. Full solution available for the *Golden Apple*.

David Rogers, 9 North Holme Court, Thorpelands, Northampton, NN3 1YA.

Wanted desperately for CPC 464. MP1 modulator or MP2 modulator. Your sensible offer paid.
Simon Lowe, 29 Ravenswood Hill, Coleshill, North Warwickshire, B46 1BN.

Wanted. Pokes (any) for *Manic Miner* and *Axioms*.
Margaret Clews, 33 Beresford Road, Blackburn, BB1 8BG.

Please, please, will anyone with back issues of *Computing With The Amstrad* and *CPC Computing* willing to sell please contact me!
Anthony Treacy, 60 Ruskin Road, Kingsthorpe, Northampton, NN2 7SY (0604 716057).

Wanted Yatching/Sailing simulation disk to suit Amstrad 6128.
R Hancock, Cedarwood House, Vicarage Lane, East Farleigh, Maidstone, Kent, ME15 0LX (0622 29989).

Help! Does anyone know how to use the Morrison ROMboard?
A Jones, 2 Townmead, Oxford, Nr Tiverton, Devon, EX16 9EW (039 85 438).

I've just started my own PD library. Send me your PD software. Also wanted *Type-Ins, Cheats, Pokes, Calls* or ANYTHING for the CPC. All disk and tape entries are returned the same day when poss.
D Geake, 4 Westmeads Road, Whistable, Kent, CT5 1LR (0227 265641).

Help on *Cybernoid I* and *II*. How do you get past station 12 - level 2 on *Vindicators*?
Adam Nendick, 17 Lightfoots Close, Scarborough, YO12 5NR.

Hints, tips, cheats wanted for *Manic Miner* and *Jet Set Willy*.
A Sharrock, 8 Fisher Drive, Orrell, Wigan, Lancs, WN5 8QX.

Has anyone got an AA39 they're willing to sell? Please, I'm desperate, your sensible price paid.
Henry Williams, 36 Column End Rise, Leckhampton, Cheltenham, Glos. GL53 0PB.

Programs needed for a mag's 'homebrew' section. No matter how bad you think it is send it in (tape only). Enclose address if you want it returned.

Paul Johnstone, 1 East Castle Road, Edinburgh, EH10 5AP.

Anyone got any good American Football sims? Good prices paid.
Rhys Sinnott, 57 Ingleton Road, Edgely, Stockport, SK3 9NN.

Help wanted on *Last Ninja II* and *Heavy on the Magick*. Please send tips, pokes and maps.
Alan Renicor, 6 St Johns Walk, Harrogate, North Yorkshire, HG1 3AJ.

Help! Desperately need AA Issue 30, willing to buy or borrow.
A J Kirk, 50 Ripon Road, Stevenage, Hertfordshire, SG1 4NA (0438 364722).

I have loadsa cheats which I will swap. Can anyone sell me the AA37 covertape, I will pay.
Johnathan Ladham, 20 Knights Road, Coggeshall, Essex, CO6 1UP.

6128 on disk - penpals wanted - I've MC routines and many of my own pokes - also users demos. All letters answered.
Patrick Niesen, F9B Rue Ligot, 6200 Gosselies, Belgium.

Wanted urgently: Rainbird's *Advanced Music System*. Any reasonable price paid.
Jeremy Fox-Geen, 1 Elsmere Close, reading, Berks, RG3 6LG (0734 429955).

I need desperate help on *Gryzor, Renegade, Rambo, Fast Food* and *Untouchables*. Poke or cheat on tape? I can give help on other games, send a list and I'll try to lend a hand.
Gary Smith, Rigmoor Cottage, Blackford, Carlisle, Cumbria, CA6 4EQ.

I can offer help with every aspect of BASIC and M/C, disk drives, the lower RAM, writing games, RSX'=s, interrupts and queries on firmware. I can also write basic and M/C programs for you and have a working knowledge of Pascal. All queries answered if SAE enclosed.
SSW, 6 Ramsgate Road, Reddish, Stockport, Cheshire, SK5 6TN.

Penpal wanted 14+ to swap pokes and games. Must own a 464. Loadsa games and pokes on offer.
David Terry, 20 Cumberland Avenue, Sheppway estate, Maidstone, Kent, ME15 7JN.

Has anybody got *Jet Boot Jack* or *Donkey Kong* for sale? Sensible offers paid.
Nigel Soal, 12 St Margarets Avenue, Sidcup, Kent, DA15 7NP (01 302 2778).

Help wanted on *Karnov* and *Ghouls and Ghosts*. Also penpal wanted, male 10 - 12 yrs. 464 owner.
Ricky Jones, 14 Lochies Road, Clackmannan, FK10 4JA.

Help! Anyone got *Elite* or *Football Manager* on disk for 6128 to sell/swap. I also have 100's of pokes for anyone sending SAE.
Julie M, 149 Malvern Crescent, Darlington, Co Durham, DL3 9UN.

Has anyone got a poke for *Platoon* or *Target Renegade*. Tape.
Declan Heerey, 9 Ednam Hse, Frencham Street, Peckham, London, SE15.

Cracking the code

Stuck on scrolling? Ace pixel-shuffler MICHAEL GLEDHILL might just be able to help you out...

Scrolling is quite a tricky subject. It's tricky because every routine is different, depending on what the programmer wants to scroll in which direction, on what size screen, with what displacement, within what time limit... and so on.

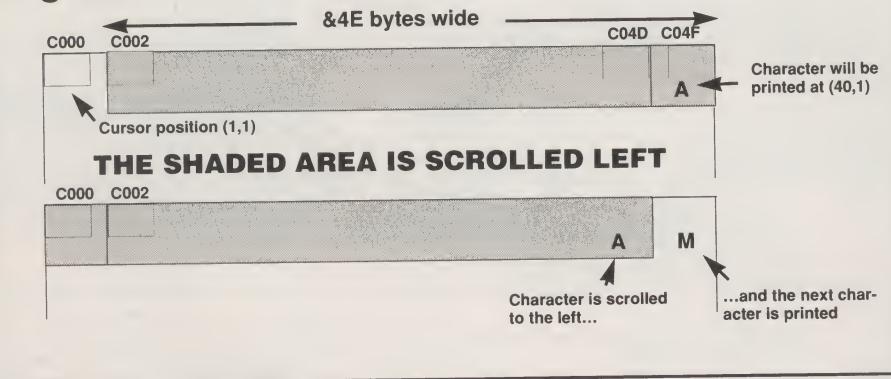
We'll start with a simple example. We've all seen scrolling messages within a program, and these are based around a simple scroll routine together with a print routine.

I could continue by writing an example listing, but there's a problem. I don't know how big an area to scroll, or where to scroll it. Before writing a routine like this, make a plan of the type of scrolling routine you need.

I've decided that I'm going to write a routine for MODE 1, print normal ASCII characters at (40,1) using the firmware's &BB5D character printer, and I want the top line scrolled to the left by two bytes before I put the next character at (40,1).

A bit of working out tells me what bytes I'll need to scroll.

Fig 4.1



(Figure 4.1)

From there, it's pretty simple.

```
prog :LD A,1
      CALL &B50E
start :LD DE,string
loop :LD HL,&2801 ; Set the cursor position
      CALL &BB75
      LD A,(DE) ; Get character to print
      OR A ; If we've reached the end of
      JR Z,start ; the string, start again!
      INC DE
      CALL &BB5A
      CALL scr
      CALL &BD19
      LD A,&2F ; If SPACE (key &2F) isn't
```

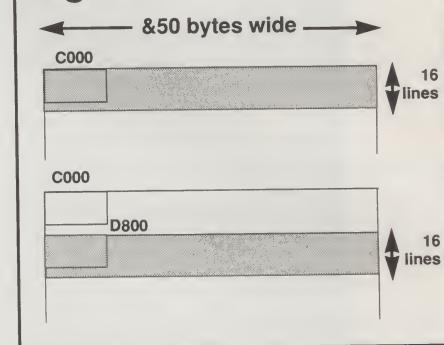
```
CALL &BB1E ; pressed do it all again !
JR Z,loop ;
RET
string:DB "Amstrad Action - the coolest mag, for the coolest
dudes ! ",0
scrl :PUSH DE
      LD HL,&C002 ; Set up variables for
      LD DE,&C000 ; the first LDIR instruction
      LD B,&8
loop2 :PUSH BC
      PUSH HL
      LD BC,&4E ; Number of bytes to scroll
      LDIR
      POP HL
      CALL &BC26
      LD D,H ; DE is always 2 bytes more
      LD E,L ; than HL, so why bother
      DEC DE ; PUSHing and POPing both
      DEC DE ; registers ?
      POP BC
      DJNZ loop2
      POP DE
      RET
```

Try running that program. You'll notice a slight problem. Despite the use of the &BD19 call, the scrolling is still flickering! I'll leave you to add a few more &BD19 calls to slow it down, but that problem is one you'll meet again and again in fast scrolling.

need only move up one line at a time, rather than two pixels up or down as the horizontal scrolling was forced to.

Vertical scrolling can again be simplified by drawing a diagram of what I want to shift and where.

Fig 4.2



(Figure 4.2)

After establishing what I want, I can then write the program.

```
LD HL,&C000
LD DE,&D800
LD C,16
loop: PUSH HL
      PUSH DE
      PUSH BC
      LD BC,&50
      LDIR ; Copy area up three lines
      POP BC
      POP HL ; DE steps down a line
      CALL &BC26
      EX DE,HL
      POP HL
      CALL &BC26 ; HL steps down a line
      DJNZ loop
      RET
```

And finally, I can't give you a complete guide to scrolling without mentioning the hardware scrolling. You've all seen the scrolling when you move the cursor off the bottom or top of the screen. But it has its drawbacks. For a start, it'll ONLY scroll eight lines up or down or one fortieth of the screen left or right, and it can only scroll the ENTIRE screen.

If you're writing a game and need full screen scrolling, then using the hardware will mean that anything which doesn't want to move, such as a scoreboard, has to be rewritten after every scroll. With the right programming, this can prove to be quicker than using software scrolling, but my personal opinion of hardware scrolling is to keep away.

Soon, amongst other things, we'll take a quick look at RSXs and the firmware. In the mean time I am putting out a fine reward of twenty five bob, or 500 shillings – if it's good – to whoever writes in with the best tip, routine, or whatever. So come on all you programmers who've been using firmwareless programs – tell us what YOU think your fellow programmers should and shouldn't do...

The problem with that routine is that it does "jumpy" scrolling – if I did a routine to scroll to the left by one pixel, it'd be very slow. Anyone who's seen *Ninja Scooter* will know what happens if you try to scroll horizontally using this LDIR method. It causes a lot of flicker! Having said that, *Ninja Scooter* – and most other scrolling games work around this problem by replacing bits like :

```
LD BC,80
      LDIR
```

with 80 LDIs. It's faster, but takes up much more room.

And then there's vertical scrolling. This can be done a lot smoother, as the scrolling area

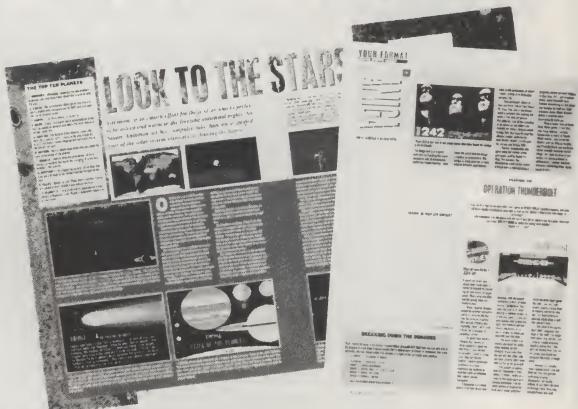
TAKE THE EXPRESS CHALLENGE!

Money back if
not delighted!

Every week **New Computer Express** provides expert news coverage. A hand-picked team of journalists brings the fastest, most authoritative news week in, week out. From all around the world, anything exciting about the CPC will be in Express.



Every week **New Computer Express** is packed with vital information about the CPC. New games. New products. New prices. New bargains. New sensations that you simply cannot afford to miss.



Every week **New Computer Express** is simply irresistible. If you're at all serious about getting the most out of your machine, then you just have to have Express.

DON'T BELIEVE US?

Then take THE EXPRESS CHALLENGE:

Simply buy **New Computer Express** and we're convinced you'll be hooked. If you're not, then send us the mastheads of four consecutive weeks from March to the end of April 1990, together with your reasons for not liking **New Computer Express**. We'll then refund your £2.32 purchase in full.

Name Age Machine owned

Address I would like my money back on **New Computer Express** because

Postcode

I enclose four consecutive mastheads from New Computer Express March /April 1990 issues
Send to: **The Express You Can't Say Fairer Than That Promotion,**
Future Publishing, The Old Barn, Somerton, Somerset TA11 7PY.
Newsagents: New Computer Express is distributed by Comag

Offer closes May 4th 1990



ZEPPELIN GAMES live, eat and sleep computer games

They produced the Budget Game of the year in 1988, and Kenny Dalglish Soccer Manager - The Soccer name game of 1989.

Looking into the 90's Zeppelin are expecting to expand its Amstrad programming team for you the Amstrad user. Therefore, if you eat, sleep and dream computer games, and would like to produce games for a company whose support to the CPC range will continue way into the 90's, then please do not hesitate to contact us immediately!

Write in confidence to David Taylor,
ZEPPELIN GAMES,
28 Osborne Road,
Jesmond,
Newcastle-upon-Tyne, NE2 2AJ.

We look forward to hearing from you

When you're talking AMSTRAD talk to Microsnips

In fact, whatever your needs, we have over 3,600 different computers and accessories in stock - all backed by the knowledgeable, highly professional service that has made us one of the most respected computer dealers in Britain.

So whether you're looking for hardware, software or just some expert free advice, consult the Amstrad specialists.

Talk to Microsnips.

MP-2 464/6128 TU Modulator	Check Availability	£29.95
DD-1-1 464 3" Disk Drive and Interface		£159.95
FD-1 6128 3" 2nd Disk Drive*		£99.95
464 64K Memory Expansion		£49.95
6128 256K Silicon Disk		£99.95
Kempston Mouse	£49.95	With Blueprint £69.95
AMS 30L Lockable Disk Box (3")		£12.95
Amstrad Digital Drum Machine		£29.95

* Cable £8.95 Extra

OVERSEAS CUSTOMERS NOTE
Postgiro International accepted. NOT
Postbank Postcheque. Books not taxable -
Europe add £5. Non Europe add £10. We
reserve the right to charge carriage at cost.

UK POSTAGE AND PACKING. Items under £50
add £2. Items under £100 add £5. Items over £100
add £10 for Group 4 Courier ensuring delivery the
day after the despatch. Overseas customers
(Europe): Full price shown will normally cover
carriage and free tax. Non Europe add 5% to total.

RING 051-630 3013 TO ORDER Answerphone
or for FREE CATALOGUE 6.00 p.m. - 9.00 a.m.

MICROSNIPS

Making technology work for you!

Personal Callers Welcomed

37 SEAVIEW ROAD, WALLASEY, MERSEYSIDE L45 4QN
051-630 3013 051-630 5396 051-691 2008 FAX: 051-639 2714



STAR SOFTWARE

29A Bell Street, Reigate, Surrey RH2 7AD. Tel: 0737 223869. FAX: 0737 246733

COMPILED BONANZA! AMSTRAD

100% DYNAMITE
ONLY £10.99 CASS
£13.99 DISC

Last Trail, Double Dragon, Wec Le Mans, After Burner

SUPREME CHALLENGE
ONLY £4.99 CASS
£9.99 DISC

Elite, Ace II, Sentinel, Star Glider, Tetris

SOCCER SPECTACULAR
ONLY £4.99 CASS
£8.99 DISC

Football Manager, Peter Beardsley's International Football, World Champions, Soccer Supremo, Peter Shilton's Handball, Maradonna

COMPUTER CLASSICS
ONLY £3.99

Zynaps, Into The Eagle's Nest, Dynamite Dan, Aliens, Cauldron II

TOLKIEN TRILOGY
ONLY £7.99 CASS
£11.99 DISC

The Hobbit, Lord of the Rings, Shadows of Mordor

10 COMPUTER HITS VOLUME 5
ONLY £4.99 CASS
£9.99 DISC

Dark Sector, Endurance, Tarzan, Boggit, Mega Apocalypse, Magnetron, Ninja Hamster, Mystery of the Nile, Catch 23, Enlightenment, Druid II

20 CHART-BUSTERS
ONLY £4.99 CASS

Ghostbusters, FA Cup Football, Agent X2, Kane, La Swat, Ninja Master, Rasputin, Ollie & Lisa, Ricochet, Zolix, Way of the Exploding Fist, Dan Dare, Formula 1 Simulator, Brian Jacks Superstore Challenge, Tau Ceti, I-Ball, Park Patrol, Thrust, Harvey Headbanger, War Cars

IN CROWD
ONLY £9.99 CASS
£13.99 DISC

Karnov, Gryzor, Barbarian, Crazy Cars, Predator, Combat School, Platoon, Target Renegade

★ COMPILATION BONANZA ★

COMPUTER HITS VOLUME 2
ONLY £5.99

3D Starstrike, Superpipeline, Technician Ted, Android 2, Mutant Monty, Codename Mat, Moonbuggy, World Cup, Gauntlet, Fantasia

COMPUTER HITS VOLUME 3
CASS £5.99 DISC £7.99

Herbert's Dummy Run, Hi Rise, On the Run, Devils Crown, Wriggler, Dynamite, Elidon, Juggernaut, Geoff Capes, Strongman, Cauldron

COMPUTER HITS VOLUME 4
ONLY £5.99

Bride of Frankenstein, Spindizzy, Pulsator, Sacred Armour of Antiriad, Revolution, Triaxos, Deactivators, Uchi Mata, City Slicker, Starquake, Elektroglide, Dandy

★ FIVE STAR ★ VOLUME 3, £7.99

AMSTRAD DISC ONLY
Cauldron, Wriggler, Dynamite Dan, Devils Crown, Geoff Capes Strongman, Juggernaut

FIVE STAR VOLUME 1
CASS £5.99 DISC £7.99

Spindizzy, Who Dares Wins II, Three Weeks in Paradise, Zoids, Equinox

TOP 30 AMSTRAD

	CASS	DISC	AMSTRAD FULL PRICE	CASS	DISC
A.P.B.	6.99	9.99			
Action Countdown	6.99	9.99			
Action Fighter	6.99	9.99			
After Burner	6.99	9.99			
Airborne Ranger	6.99	9.99			
Barbarian 2	6.99	9.99			
Beach Volley	6.99	9.99			
Beverly Hills Cop	6.99	9.99			
Blitzkrieg Commando	6.99	9.99			
Bloodwynd	6.99	9.99			
Cabal	6.99	9.99			
Captain Fizz	6.99	9.99			
Crazy Cars 2	6.99	9.99			
Double Dragon	6.99	9.99			
Dragon Ninja	6.99	9.99			
Dynamite Dux	6.99	9.99			
Eliminator	6.99	9.99			
Eminy Hughes Soccer	6.99	9.99			
Fighter Bomber	6.99	9.99			
Football Director	6.99	9.99			
Football Manager 2	6.99	9.99			
Football Of The Year	6.99	9.99			
Goalkeeper's Winter Tail	6.99	9.99			
Grand Prix Master	6.99	9.99			
Gunship	6.99	9.99			
Heroes of the Lance	6.99	9.99			
Hunga Killing Machine	6.99	9.99			
Inc. Shrinking Sphere	6.99	9.99			
J. Jones - Last Crusade	6.99	9.99			
K. Dalglish Soccer, Man	6.99	9.99			
Kick Off	6.99	9.99			
Last Duel	6.99	9.99			
Last Ninja 2	6.99	9.99			
Licence To Kill	6.99	9.99			
Live and Let Die	6.99	9.99			
Microprose Soccer	6.99	9.99			
Moonwalker	6.99	9.99			
Myth	6.99	9.99			
New Zealand Story	6.99	9.99			
Nightraider	6.99	9.99			
Operation Wolf	6.99	9.99			
Out Of This World	6.99	9.99			
Pacland	6.99	9.99			
Pacmania	6.99	8.99			
Purple Saturn Day	6.99	9.99			
R-Type	6.99	9.99			
Rally Cross	6.99	9.99			
Real Ghostbusters	6.99	9.99			
Red Heat	6.99	9.99			
Renegade 3	6.99	9.99			
Running Man	6.99	9.99			
Saint & Greavie	6.99	8.99			
Scrabble De Luxe	7.99	10.99			
Skate or Die	6.99	9.99			
Space Harrier 2	6.99	9.99			
Staglider 2	9.99	13.99			
Stunt Car	6.99	9.99			
Tank Attack	6.99	9.99			
Test Drive 2	6.99	9.99			
Thunderbirds	6.99	9.99			
Thunderblades	6.99	9.99			
Trackout Manager	6.99	9.99			
Trivial Pursuit	6.99	9.99			
Trivial Pursuit New Beg.	6.99	13.99			
Typhoon	6.99	9.99			
Vigilante	6.99	9.99			
Vindicators	6.99	9.99			
War in Middle Earth	6.99	9.99			
Wec Le Mans	6.99	9.99			
Xenon	6.99	9.99			
Xenophobe	6.99	9.99			

PLEASE MAKE CHEQUE OR P.O.
PAYABLE TO: STAR SOFTWARE.
ORDERS OVER £5 P&P INC.
UNDER PLEASE ADD 50P PER
ITEM. EUROPE £1 + P&P
ELSEWHERE + £2.

* PLEASE STATE COMPUTER
SYSTEM WHEN ORDERING
TO SAVE DELAY *



ACTION TEST

Fiendish Freddy finished at last - and he's a nasty piece of work too

“ The stuff of legends ! ”

System 3 sets up a battle royal with the gods themselves in Myth. Save history or die!



Also reviewed

- Beyond the Ice Palace p47
- Striker p47
- Samurai Trilogy p48
- Fighting Warrior p48
- Scramble Spirits p50



● The award-winning Kick Off is here. Is it 1st division stuff - or 4th division? Turn to page 45 for the classified results.



● Fiendish Freddy takes centre stage. Trick or treat? The show begins on page 40.



● Rainbow Islands makes the Care Bears look like the KGB. Is it sweet or sour, though? AA gives you a taster on page 54.



● Violence is golden in Wild Streets, the new beat-em-up from France. A true champ or just another Tyson? The rumble's on page 52.

FIENDISH FREDDY'S BIG TOP O' FUN

Minimum: 8 £9.99 disks, £14.99 disk/joystick/keys

Hurry, hurry, hurry, because the greatest show on earth – the Big Top O' Fun – is about to begin. Unless, that is, Fiendish Freddy has his way...

The happy-go-lucky circus folk have hit lean times and owe the big bad bank bundles of bucks. What's worse, the bank wants to tarmac over the site and turn it into offices, putting you on the dole and depriving thousands of children of the magic that is circus.

There's one last chance, a chance the circus has to take. There's time for one more big show, the chance to raise more than \$10,000 to pay your way and thus save the day. The bank, too, is aware of this and has hired the infamous East Coast hitman, the clown prince of crime, Fiendish Freddy, to ensure the show must not go on.

You must complete six acts, each more daring and more dangerous than ever before, if you're to put bums on seats and pay the bills. Yet Freddy has a foul and foolproof plan to frustrate each performance, so beware as you enter the dangerous world of the high-divers, trapeze artistes, jugglers, knife-throwers, high-wire walkers and human cannonballs.

A multi-event game, *Freddy* follows in the footsteps of *Games and Daley Thompson Decathlons* of days past, using the circus as its base instead of sport. Each event builds cash up to that magic ten grand that can save



• Jeffy the dubious juggler gets to grips with the proceedings

the circus. A maximum of six players can try to see off the dubious jester, although they can't combine royalties. So, ladies and gentlemen, boys and girls, players and rubber-neckers, cast your eyes towards the ring for the first act.

Phenomenal Feats of Daring Diving

Take Horace the fearless flying diver higher and higher as he sets pulses racing and the turnstiles ticking. He has to dive from four different boards and perform different tricks all while aiming for insubstantial targets. On

Level One he gets a relatively huge barrel, Two a bucket, on Three he aims for damp sponge and for Four he has to hit a tea cup from about five miles up.

Freddy seeks to ruin this act by flying in using his jet pack and forcing Horace off target. A true test of wagging, indeed, Horace always makes an impression, more often than not in the circus floor and not on the audience.

Genuine Juggling Genius

This is Jeffy the Juggler's greatest moment. He has four different goes at keeping the objects flying from hand to hand. The unicycling clown is thrown knives, torches and balls by his seal helper. Line up the hands under the object for a catch, waggle to throw them. Drop five and it's game over, but the time limits are generous, so take it easy.

Freddy is at his most dangerous here as he tosses bombs in for Jeffy to catch. The poor juggler had better get rid of them pretty quick if he wants to survive, as the fuses burn real fast. On the Third and Fourth levels Freddy even throws babies in for the hapless performer to catch and then throw back into their prams. Success here requires you to

watch fifteen things at once, be able to move them at will and still be able to smile. Oh, the tears of a clown!

Deadly and Dangerous Daggers of Death

As tradition demands, the knife-thrower's lovely assistant is strapped to a wheel, surrounded by balloons, and set spinning. You have to throw the knives to pop the balloons and not the girl. There's a generous time limit, but a distinct shortage on the knife front, so aim using the knife cursor carefully.

Freddy is quite laid back on this one, just putting a spanner in the works by throwing in the occasional left-over bomb to shake you up and ruin the whole show with smoke. He hardly has to do this, though, because the event's a real toughie even without the interruptions!



• Roll up, it's a game for up to five fiendish players

Breath Taking Bravado From Hazardous Heights

The high trapeze has fascinated audiences since it came to the circus. The Big Top O' Fun's star is Finola, who swings high above the crowds defying both gravity and death. Time her leaps to perfection, making sure she lets go of one bar at just the right moment to somersault and grab the next. She even has to negotiate flaming hoops and paper targets on the way.



• Horace prepares for highboard hijinks



Freddy is once again out and about on his jet pack, waiting for the right moment to strike. If she waits for that perfect jump it's not inconceivable that he'll cut her down, so take those chances — she does have two lives, after all.

Tense Travel Techniques on Tightrope

The tightrope is a disappointment. It's too fiddly and not spectacular. All the walker has to try and do is struggle across a length of rope, making it to the other side. Balancing is achieved by countering any wobble in any direction, and that's it apart from the (overwhelming) likelihood of falling to your doom, so on the whole it's a bit dull.

Freddy does wait in the wings to give you less than a helping hand if things are going too well, but that's such a rare event both you and the audience will be glad to see a different face.



• You can tell when the judges are impressed

Combustible Cannons of Colossal Courage

As a finale, the big top folk wheel in their big gun for the human cannonball act. You have to judge how far the powder in the cannon will fire Fernando (for it is he) and the correct angle for the shot to hit the target. Once fired, there's no turning back, so make sure of any calculations about windage and elevation before the big bang.

Freddy will bung a bung in the barrel if



• Throw those knives and burst those balloons

SECOND OPINION

A Graphical Extravaganza. A novel plot and wicked humour lift what could otherwise have been yet another multi-event sport-em-up into something special. AW

GREEN SCREEN

The circus is still magic in green.

you're slow in the decision stakes. So the whole event takes a frantic turn as you try to learn the intricacies of ballistics at Fernando's expense.

The real treat in *Freddy* is not the games themselves but the humour that pervades the whole show. The manual's written with Big Top hype and the graphics are more 'toons than sprites. All the events have a special humour; the high diver's landings, the wobbly Jeffy juggling on his unicycle, to name but two examples. Even the incidental screens between events are funny, with the Ringmaster's trousers falling down and the judging panel doing *Three Stooge* routines before they give a verdict.



• The daring trapeze artist makes in one piece

Freddy acts as an unpredictable joker that is played without warning, giving a random and more dangerous edge to the proceedings. He actually makes competing even as a single player interesting, because you never know where or when he's going to strike.

Never in the history of gaming has there been so much real humour crammed into a game, and it lifts what would be an ordinary multi-event game to rave levels. If want a Barrel O'Laughs you won't go far wrong in when you enter the Big Top O'Fun. TW

FIRST DAY TARGET SCORE

\$5,000

The Verdict

GRAPHICS 95%

- Hilarious cartoon capers.
- Brilliant animation sequences.

SONICS 52%

- Run-of-the-mill effects.
- Almost continuous music.

GRAB FACTOR 91%

- A winner right from the off.
- Easy events to understand.

STAYING POWER ... 83%

- Difficult to master.
- Only six events.

AA RATING 88%

- A laugh a minute, circus extravaganza.



• Fernando the human cannonball makes a perfect landing, for a change!

MYTH - HISTORY IN THE MAKING

System 3 • £9.99 cass, £14.99 disk
joystick/keys

So you've read all the books, right? You know all about the devils and demons of ages past, but they weren't real! Were they...?

Too right they were, and now all your expertise is going to be needed if the world – even history itself – is going to be saved for all time.

Dameron, principal nastie in a sky chock-full of evil deities, has taken over time itself. He's unable to influence the future – that much was laid down at the dawn of man, when the gods diced for control of the elements.

He can, however, in the best Marty McFly manner, change the future by simply altering the past.

Gods cannot change their alignment either – good lords are only able to do good deeds. But Dameron has found a theological loophole here too, and has convinced the gods that evil is in fact good and now threatens not only your life, but every life that was ever destined to be for the rest of time.

The few remaining forces of good have selected you to be their champion and right the wrongs of Dameron. Only a mortal can do this, and only you have the necessary knowledge of mythology (you got an 'ology – ed!) to succeed. It's going to be tough battle fighting the gods themselves, but this is the stuff dreams are made of. This is a *Myth*, truly history itself in the making.



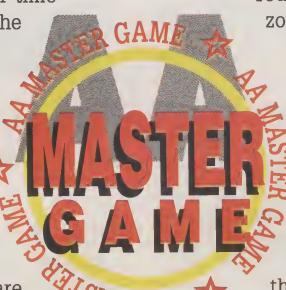
• Don't look now – Medusa's attacking!



• Get the head, and the level's in the bag.



• In legend this Norse dragon was immortal, but you now have to kill it. Can it be done?



You're transported to the first time zone – and it's Hell – or at least the road to it! You must find and collect five orbs that will give you the power to overcome Dameron's evil and further your quest. Act fast – you're on a mission from god!

The world is one of platforms, floating rocks and caves that you can leap about looking for clues. An arcade adventure, the primary task is finding some weapons to protect yourself from the obviously vicious creatures of the pit.

Flexing your muscles, you can leap, walk and run. Boxes, chests and other containers can be kicked open, revealing items that can be collected and stored for use at a later date. So look hard and use carefully. Fireballs and energy are the most urgent requirement, so that you've got something to kill with and to



• A harpy attacks.



• You have to beat the demon and cross the fiery pit to get the teleport gem you seek.

SECOND OPINION

An epic adventure that is sure to keep you playing for many moons to come. Clearly ported straight over from the Spectrum but – for once – none the worse for it.

AW

GREEN SCREEN

Gets a teensy bit dark in places.

live on! You can attack zombies and creatures of the night with your bare hands, but it isn't really a viable proposition.

Hell is a hot and fiery vision. Skeletal dead stalk the corridors hunting you, corpses of the damned hang in torment from nooses eager to drain your energy so that you join their ranks. Wiping out skeletons with fireballs has the curious effect of leaving skulls to collect.

You may not instantly know why, but the good gods are giving you all the help they

can, so don't ask questions!

Fiery gargoyles sit guarding the most obvious orbs, but these take some getting. Others are in apparently unobtainable positions. Good strategy and experimentation will eventually yield results. Remember, every item has a use and every monster a weakness!

Hellfire and brimstone bubble and boil, sapping your energy if you stand in the wrong place for too long. Swinging corpses rock gently when touched, while huge devils guard the artifacts you seek. Beware demonfire – it kills! Every step you take may be your last if you don't know exactly where you're going and on what you'll land.

Success transports you from the land of Dante to the world of ancient Greece. Now you must face the titans, whose fame Homer sang: Medusa, Hydra and friends. More benign gods than those of Hades live here, and if you act bravely and courteously, there's a chance to recoup some of your lives. There is also greater danger.

Again, you seek five orbs, orbs that when used with a master icon will take you to the next world. The risks involve instant death by petrification, more fire-baths and a beautiful lady who also happens to be as fickle as the English climate!

Here you're armed with a sword and shield, so you shouldn't feel naked even when facing "old snake head". Swing your blade into everything – even the scenery – to find those hidden treasures. They won't make you rich, but may well save your soul.

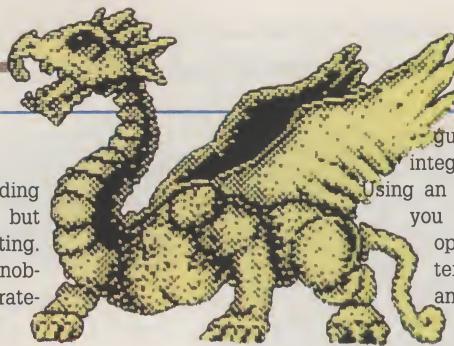
Complete this level and you face the might of the Norse gods Odin and Thor, in a land littered with trolls and wraiths. You start by battling against vikings on the prow of a dragon ship that's sailing into the teeth of a gale. The Norse gods must be defeated and made to realise the error of their ways.

After a showdown with the father of the gods, Odin, you will find that the final and most perilous adventure is yet to follow, in the trap-filled world of ancient Egypt.

In the land of the Pharaohs, all is definitely not what it seems. Every paving stone may spring a trap that will crush, poison or behead you (possibly all three). King Tut must be raised from the grave and then killed – a bit pointless, but effective.

The puzzles – principally finding out what each item you find actually does – get ever more difficult. The dangers are increasingly terminal. Make the most of any lives gained on the Greek level and the credit feature if you want to stand any chance of getting into the final face-to-face beef with Dameron, the god who caused all the trouble in the first place.

As an arcade adventure, *Myth* is unsurpassed. It has depth and cunning gameplay, subtly blending joystick speed with grey matter power to a near perfect degree. Luck and



guesswork become integral to your success. Using an icon system means you have a variety of options at all times, in terms of what to do and how to do it. A little clumsy at first, the pause taken while you

select objects/actions with space bar and joystick often gives you the vital time needed to think out a problem and to second-guess the programmers.

Graphically, the choice couldn't have been a better one. Small, bold sprites are used in single colours, thus avoiding clashes and making all things clear at all times. Wit and humour is readily apparent in the animation, with the transforming woman's hair waving, wraiths diving into the ground and skeletons that look like extras from a fantasy B-movie.

The sound effects are varied and interesting. The overall impression of the game is helped by the huge monsters. Some are pretty immobile, and all are as impressive as they are deadly.

Myth feels full. It's detailed and challenging, a game constructed by gamesplayers for gamesplayers. Care is taken at every turn to impress and confuse would-be heroes. The gods of ages past are waking and their rumblings are the stuff legends are made of. Share this legend and make history.

If you fail, the world will suffer for entertainment. Win, and you will join the deities of times past in *Myth*. TW

FIRST DAY TARGET SCORE

Finish the Road to Hell

The Verdict

GRAPHICS 93%

- Beautiful, detailed and thorough.
- Exceptional animation.

SONICS 70%

- No music.
- Vast array of sound effects.

GRAB FACTOR 88%

- So much to do – where do you start?
- Very tough.

STAYING POWER 95%

- Four very tricky arcade adventures in one.
- Good reactions are essential.

AA RATING 94%

- An arcade adventure that will go down in legend.



● Level Three starts on a viking ship.



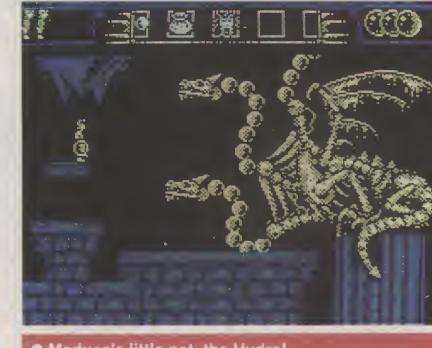
● Traps are everywhere in the pyramid of King Tut.



● Take a close look at the statue of Achilles.



● A lady Norse god needs rescuing from the fire.



● Medusa's little pet, the Hydra!

POOLS AND HORSES

WIN WITH

COURSEMASTER AND

POOLMASTER

(formerly 'Pools Predictor' by Corwen Computer Systems)

The Computer Horseracing Programme

- ★ RATES ANY RACE IN SECONDS - ANY DAILY NEWSPAPER IS ALL YOU NEED
- ★ NEVER out of date - Both N. Hunt and Flat - Fast data entry
- ★ AMAZING ACCURACY!! - Now you CAN BEAT THE BOOKIE!
- ★ Works on the simple principle that **FAST HORSES BEAT SLOW ONES!!**
- ★ Clearly identifies best selection in every race plus these **AMAZING** Features:-
- ★ First, Second and Third choice shown for Forecasts and Tricasts, etc. Recommends most suitable type of bet.
- ★ Actually works out your **WINNINGS** on most popular bets including **SINGLES** and **DOUBLES**, win and each way. **PATENTS, YANKEES, CANADIANS, HEINZ** etc. Good **EACH WAY** and **LONG ODDS** bets clearly shown.
- ★ Will **PRINT** out your **BETTING SLIP** for you.
- ★ Maintains a **BANK ACCOUNT** - **BET** like **PROFESSIONALS** do! Records all your bets in any number of accounts. Keep a complete record of your betting or compare Coursemaster against your favourite tipster.
- ★ **PLUS!! - THE AMAZING COURSEMASTER SYSTEM**. This superb betting system is included in the programme. A system which regularly produces huge wins from small stakes. Try it! Can pay for itself many times over on the first day!
- ★ Supplied with 20 page **BETTING GUIDE and MANUAL**.

FREE HOT TIP OF THE MONTH TO EVERY PURCHASER

Supplied on **TAPE** at £16.95 for:-
All Spectrums, Commodore 64/128, Amstrad CPC's, BBC & Electron. Also available for Sinclair QL on Microdrive at £16.95.

Supplied on **DISC** at £18.95 for:-
All Spectrums, Commodore 64/128 Amstrad CPC's, Amstrad PCW's, BBC & Electron, IBM/PC compatibles. All Amstrad PC's etc.

Please state machine and disc size

The Computer Football Pools Predictor

The amazing **POOLMASTER** programme is by far the best Pools predictor that we have ever seen. In just 10 weeks of trying this programme ourselves we won 12 dividends the largest being nearly £300. **POOLMASTER** is simple to use and requires only that you keep the league tables up to date using your usual newspaper.

The result of many years research into the Football Pools by the programmer Martin Evans of C.C.S. the programme is a masterpiece of expertise and is simplicity itself to use.

- ★ Predicts Homes, Aways and Draws.
- ★ Not fiddly typing in of teams etc. and no redundant databases.
- ★ Instant read out or Hardcopy if you have a Printer.
- ★ Uses scientific formula based on recent form home and away, league position, goals scored etc. It has long been realised that certain combinations of these factors return a much higher average of draws than the laws of average would expect. **POOLMASTER** looks for these factors and analyses their significance to give you the best possible chance of a win.
- ★ Also has a 'Sequence Predictor' option. Many people believe that certain numbers on the coupon come up more often than others and over a season patterns do seem to develop. The programme analyses these patterns and predicts the numbers most likely to come up next. Certainly more scientific than sticking a pin in or family birthdays etc!

If you do the **POOLS** then this is the programme for you.

SUPPLIED ON TAPE AT £16.95
FOR ALL SPECTRUMS, AMSTRAD CPC'S
COMMODORE 64/128.

SUPPLIED ON DISK AT £18.95 FOR ALL
PCW'S, SPECTRUMS, COMMODORE
64/128, AMSTRAD CPC'S, AMSTRAD/IBM
COMPATIBLE PC'S.

British and Australian version available please state which. Please state disc size.

*** SPECIAL COMPENDIUM DISK OR TAPE CONTAINING ***
BOTH COURSEMASTER & POOLMASTER - TAPE £31.95 - DISK £34.95

INTRASET LTD, (DEPT AA) FREEPOST NO. 10 Woodside Ave,
Clayton-Le-Woods, Chorley, Lancs, PR6 7QF

SPRITES ALIVE

THE SPRITES PACKAGE FOR THE AMSTRAD

It has arrived!!.....the most powerful and advanced Sprites package ever written for the Amstrad CPC computer.

Don't just take our word for it....read the reviews (Amstrad Action - December 1989, Amstrad Computer User - January 1989) Amstrad Action "Very powerful", Amstrad Computer User "I am impressed" "A bargain".

The Sprites Alive Package, which has taken over 30 months to complete, will allow the basic programmer to write professional looking arcade style games easily.

Don't blow your lid, this is the program your computer needs!!

Just some of the extensive features:

- * Uses simple basic commands
- * Works in mode 0 or mode 1
- * Smooth pixel by pixel movement
- * True collision detection
- * Comprehensive 75 page manual
- * Sprites sizes up to 32 x 32
- * 23k program space free
- * Joystick/Keyboard control
- * Auto missile commands
- * Auto direction animation
- * Maze modes
- * 64 super smooth Sprites
- * Excellent Sprites designer
- * 70 commands added to basic

* If you can program in Basic, you can use Sprites Alive

Suitable for Amstrad CPC 6128 or CPC 464/664 with 64k memory expansion and supplied on disc only.

All of this, for only £22.95 inclusive

* Coming soon - Sprites Compiler, 34.50 *

We offer an upgrade service. For a small fee you can upgrade your program and receive the very latest version. If you own a copy of Sprites Alive you can upgrade to the compiler version for £13.00 when it is complete.

Please make cheques/postal orders payable to: Glenco Software

Glenco Software, Dept AA, 15 Alford Lane, Whitehouse Farm, Stockton On Tees, Cleveland, TS19 0QP. Tel: 0642 606358.

G · L · E · N · C · O
S O F T W A R E

NIRVANA v1.1

The Ultimate Disc Management Suite

A POWERFUL SUITE OF DISC UTILITIES WITH THE FOLLOWING FEATURES

SELECTABLE DRIVES

Any combination of disc drives can be selected

FAST DISC FORMATTER

Formats a disc in under 20 seconds. Formatting is possible in drive A or B with a choice of DATA or VENDOR formats.

RENAME FILES

NIRVANA supports single and multiple renaming of files.

ERASE FILES

NIRVANA supports single and multiple erasing of files

DIRECTORY EDITOR

On-screen directory allows alteration to any part of a disc's directory.

SECTOR EDITOR

On-screen editing of any sector is possible allowing alterations to be made directly to the disc's code. To help guide you round a data formatted disc a Data Sector Map is included in the

instruction manual.

DISC MAP

Maps a disc with the option of printing the map to screen or printer. The map shows the name of each file together with the tracks & sectors it occupies.

FILE ATTRIBUTES

Four options are available allowing files to be READ ONLY or READ WRITE and DIRECTORY or SYSTEM.

FILE COPY

A unique and intelligent file copier allows single or multiple transfer of files from one disc to another. This option will check for and use any additional memory including D'Ktronics memory packs up to 256K. With a 256K pack it will transfer one side of a disc in a single pass (only one disc change for single drive users.) Full On-screen reporting of how the transfer is progressing.

DISC COPY

This option allows single or multiple tracks to be transferred from one disc to another. Full on-screen reporting shows tracks and sectors being transferred.

ARCHIVE A DISC

This option is very similar to "Tape Streamers" on PC machines. It will automatically archive a whole disc in around 15 minutes without any attention from the operator.

FILE ARCHIVE

Similar to Disc Archive, this option will archive individual files by name and in alpha-numeric order.

Both Disc & File Archive will allow you to release expensive disc space by archiving material to cassette tapes. Cassette tapes are inexpensive and provide the ideal medium for backing-up those important discs.

The ROM version of NIRVANA has insufficient room for some features. These are, however, supplied on disc.

NIRVANA IS CAPABLE OF BACKING-UP SOME COMMERCIAL DISCS. AUTHORITY MUST BE OBTAINED FROM THE COPYRIGHT HOLDER BEFORE A COMMERCIAL DISC IS BACKED-UP.

Simply the best Disc Management Suite available today

Upgrade your early Disc version	UK £3.00	Europe £4.50	Rest of the World £5.50
Upgrade your ROM (incl disc)	UK £6.00	Europe £7.50	Rest of the World £8.50
Disc to ROM upgrade (inc. disc)	UK £13.00	Europe £14.50	Rest of the World £15.50
Disc version	UK £15.00	Europe £16.50	Rest of the World £17.50
ROM version (includes disc)	UK £26.00	Europe £27.50	Rest of the World £28.50

LABELMAKER

FOR ALL AMSTRAD CPC COMPUTERS

T H E D I S C L A B E L P R O G R A M

LABELMAKER is suitable for a large range of dot-matrix printers including the Amstrad DMP2000/3000 series and other Epson compatibles, Shinwa's, Mannesmann Tally's, Star's, Panasonic's and the Citoh M8510. LABELMAKER is a very easy to use utility which will generate both 3" and 3.5" disc labels with ease. Single-key commands, with on-screen prompts, provide a variety of functions to enable rapid production of the perfect disc label, made to suit your own individual requirements.

LABELMAKER screens are in standard Amstrad CPC format and can be edited with your own art/graphics package adding logos, graphics etc. The program allows loading and saving of screens at any time so that you can build a library of your favourite labels. We also include a number of example screens on the disc.

DISC ONLY: UK £12.00 EUROPE £13.50 REST OF WORLD £14.50

Please send your cheque (£ Sterling) Eurocheque or UK P.O. to:
GOLDMARK SYSTEMS, 51 COMET ROAD,
HATFIELD, HERTFORDSHIRE, AL10 0SY, ENGLAND

Write or Telephone
(0707) 271529 for a brochure

KICK OFF

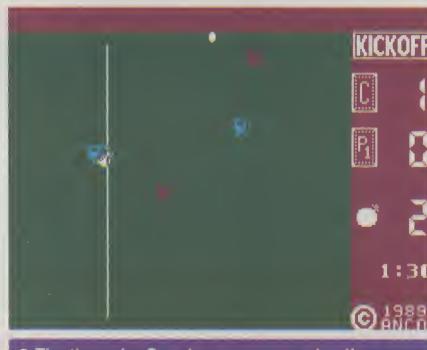
Anco • £9.95 cass, £14.95 disk
joystick/keys

"Not another soccer sim!" we cried when Kick Off landed on the AA doormat. We've reviewed well over thirty in the past four years. Could yet another possibly offer anything new?

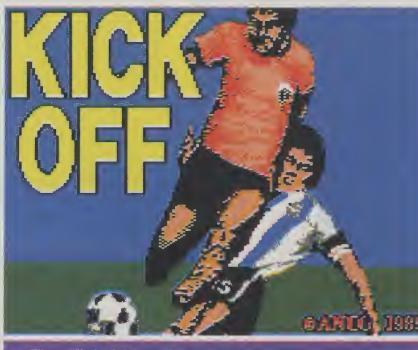
Kick Off promises the usual stuff that you'd expect from a football game. One or two players, a practice mode, and a league table that allows up to eight people to play. It has penalties, corners, throw-ins and fouls. You can set team formation tactics, dribble, pass, tackle and shoot.

On first impressions, *Kick Off* really does look dire. The graphics are Spectrumeque to the very worst degree. The players have very little detail and are drawn in a single colour for each team - a rather sickly choice of cyan and purple - though this gives excellent contrast on a green screen. The ball is a solid white blob and you get the feeling that the graphics haven't had much work put into them. The green pitch has white markings, apart from which there is no other background detail.

Sound too is limited. All you hear is the referee's whistle at various stages throughout the match, and a bouncing sound whenever a player kicks the ball or it hits the ground. Apart from these two spot effects, the sonics



• The throw-in. Over 'ere son, on me 'ead!



• The Kick Off loading screen.

begin to shine through. The playing area is fairly small - but not so small that you can't see what's going on - and it moves along at a fair old whack. The players are all computer-controlled apart from the one that touched the ball last, and this chappie can be easily con-

SECOND OPINION

The only footie game I'll play - 'nuff said?
RL

GREEN SCREEN

More suited to green, if anything.

trolled with the joystick or keyboard. (Control changes each time the computer sends a player into the ball.)

This makes for a good system, as you're not trying to move one player and suddenly

tion to match your abilities.

The real fun comes when the opposition is human. The sheer exhilaration of playing real enemies... er, colleagues... had the entire AA office enthralled for hours. It really is the one of the most playable two-player games we've come across, and is certainly the two-player footie sim.

The League is another excellent option. Up to eight players can compete at once, and the on-going competition can be saved to tape or disk.

We had mixed feelings about *Kick Off*. With the fast gameplay and pin-point playability you're over the moon, whilst the appalling graphics and naff sound leave you as sick as a parrot (that's enough metaphors - ed). At the end of the day, though, the good points outweigh the bad, and *Kick Off* is well up in the first division.

AW



• Never touched 'im, Ref!

FIRST DAY TARGET SCORE

Beat the computer on International level

The Verdict

GRAPHICS 13%

Dreadful flickery sprites.

SONICS 17%

Conspicuous by their absence.

GRAB FACTOR 67%

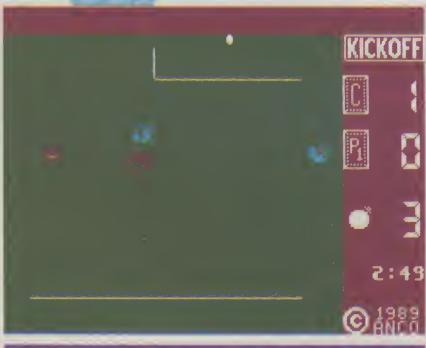
You soon get into the action after the initial disappointment.

STAYING POWER 86%

Once you've played one game you're hooked.

AA RATING 78%

Superb soccer sim marred by bad presentation.



• The player you control is marked with a bar.

are non-existent. There is no music of any description, and although sound is by no means the most important aspect of a game, the lack of it seriously detracts.

Once you get over the bad presentation, however, the fast scrolling and slick action



• It's end-to-end stuff in the Waring Wanders vs Webb Rovers match.

so easy that you thrash the computer every time, but it's not so difficult that it's impossible, either. The skill levels of the teams can be set from Sunday League to International standard, so it's possible to adjust the opposi-

SOFTWARE CITY

CALL US ON:
0785 41899
0922 24821
0902 25304
ACCESS

VISA 

We welcome customers at:

SOFTWARE CITY 1 GOODALL STREET, WALSALL
SOFTWARE CITY 56 FOREGATE STREET, STAFFORD
 TEL: 0922 24821 TEL: 0785 41899

SOFTWARE CITY 3 LITCHFIELD PASSAGE, WOLVERHAMPTON
 TEL: 0902 25304

2 Player Super League	£2.99	Pinball Sim	£2.99	Brian Clough's Football	£6.99	£9.99
180...	£2.99	Powerplay	£1.99	Cabal	£6.99	£9.99
3D Grand Prix	£2.99	Postman Pat	£1.99	Carrier Command (128K)	£9.99	£11.99
720...	£2.99	Postman Pat 2	£2.99	The Champ	£6.99	£9.99
1942...	£2.99	Predator	£2.99	Championship Golf	£6.99	N/A
Academy	£2.99	Premier 2 Football	£1.99	Chase H.Q.	£6.99	£9.99
Ace 1 or 2	£2.99	Pro Golf	£1.99	Continental Circus	£6.99	£9.99
Action Force	£2.99	Pro Snooker	£2.99	Crazy Cars 2	£6.99	N/A
Airwolf 1 or 2	£1.99	Pub Trivia	£2.99	Cricket Master	£6.99	N/A
Alien Syndrome	£2.99	Rally Cross Sim	£2.99	Cyberball	£6.99	£9.99
Arcade Flight Sim	£2.99	Rally Sim	£2.99	Double Dragon 2	£6.99	£9.99
Arcade Fruit Machine	£2.99	Rambo	£2.99	Dynamite Dux	£6.99	£9.99
Army Moves	£2.99	Rampage	£2.99	Emlyn Hughes	£6.99	£9.99
Barbarian	£2.99	Renegade	£2.99	Fiendish Freddy	£6.99	£9.99
Bard's Tale	£2.99	Rex	£2.99	Fighting Soccer	£6.99	£9.99
Barry McGuigan's Boxing	£2.99	Rolling Thunder	£2.99	Footballer of the Year 2	£6.99	£9.99
Baseball	£2.99	Rugby Boss	£1.99	Football Director	£6.99	N/A
Batman	£2.99	Rugby Simulator	£2.99	Football Director 2 (128K)	£6.99	£13.99
Battleships	£1.99	Rygar	£2.99	Football Manager 2 + Expansion	£6.99	£9.99
Beyond the Ice Palace	£2.99	Saboteur 1 or 2	£1.99	Ghostsbusters 2	£7.50	N/A
BMX Sim 1 or 2	£2.99	Short Circuit	£1.99	Gunship	£6.99	£13.99
Bombjack 1 or 2	£1.99	Sidearms	£2.99	Hard Drivin	£6.99	£9.99
Boxing Manager	£2.99	Sigma 7	£1.99	Indiana Jones Last Crusade	£6.99	£9.99
Buggy Boy	£2.99	Soccer Boss	£1.99	Kenny Dalglish	£6.99	£9.99
Chuckie Egg 1 or 2	£3.99	Soldier of Light	£2.99	Knight Force	£6.99	£8.99
Combat Lynx	£1.99	Solomon's Key	£2.99	Lazer Squad	£6.99	N/A
Commando	£2.99	Space Harrier	£2.99	Microprose Soccer	£6.99	£13.99
Crazy Cars	£2.99	Spindizzy	£2.99	Myth	£6.99	£9.99
Cricket Captain	£2.99	Spooked	£2.99	New Zealand Story	£6.99	£9.99
Cricket Crazy	£1.99	Spy Hunter	£2.99	Ninja Warrior	£6.99	£9.99
Cricket Int	£1.99	Spy V Spy	£2.99	Operation Thunderbolt	£6.99	£9.99
Critical Mass	£1.99	Street Fighter	£2.99	Paul Gascoigne Super Soccer	£6.99	N/A
Crystal Castles	£2.99	Summer Games	£2.99	Pinball Magic	£6.99	£9.99
Cyberoid	£2.99	Super Cycle	£2.99	Pipemania	£6.99	£9.99
Dale Thompsons Decathlon	£2.99	Super Nudge 2000	£1.99	Powerdrift	£6.99	£9.99
Dan Dare 1 or 2	£2.99	System 8	£2.99	Project Stealth Fighter	£9.99	£13.99
Deep Strike	£1.99	Tetris	£2.99	Rainbow Island	£6.99	£9.99
Dizzy	£2.99	Theatre Europe	£2.99	Rick Dangerous	£6.99	£9.99
Dizzy in Fantasy World	£2.99	Thundercats	£2.99	Robocop	£6.99	£9.99
Dizzy Dice	£1.99	Tom Cat	£1.99	Scrambled Spirits	£6.99	£9.99
Eagles Nest	£1.99	Top Gun	£2.99	Shinobi	£6.99	£9.99
Enduro Racer	£2.99	Trap Door 1 or 2	£1.99	Skate or Die	£6.99	£9.99
European 2 Football	£2.99	The Train	£2.99	Starglider 2	£9.99	£13.99
Exploding Wall	£2.99	Treasure Island Dizzy	£2.99	Star Wars Trilogy	£8.99	£13.99
F.A. Cup	£1.99	Turbo Esprit	£1.99	Strider	£6.99	£9.99
Fighting Warrior	£2.99	Turf Form	£2.99	Stunt Car	£6.99	£9.99
Fin 2	£2.99	Twin Turbo V8	£2.99	Super Wonder Boy	£6.99	£9.99
Football Manager	£2.99	U.S. Basketball	£2.99	Tintin	£6.99	£9.99
Footballer of the Year	£2.99	Wembley Greyhounds	£2.99	Tolkien Trilogy	£8.99	£11.99
Formula One Grand Prix	£1.99	Who Dares Wins 2	£1.99	Toobin	£6.99	£9.99
Frank Bruno	£1.99	Wizball	£2.99	Tracksuit Manager	£6.99	N/A
Frankenstein Jnr	£2.99	Wonderboy	£2.99	Treble Champions	£6.99	N/A
Frightmare	£2.99	World Class Leaderboard	£2.99	Turbo Outrun	£6.99	£9.99
Fruit Machine Sim 1 or 2	£2.99	World Games	£2.99	Tusker	£6.99	£9.99
Game Over	£2.99	Yie Ar Kung Fu	£2.99	The Untouchables	£6.99	£9.99
Gary Linekar's Superstar Soccer	£2.99	Yogi Bear	£1.99	Vulcan	£6.99	N/A
Gauntlet 1 or 2	£2.99	Zybox	£2.99	War in Middle Earth	£6.99	£9.99
Ghosts and Goblins	£2.99					
Ghostsbusters	£1.99					
Grand Prix Sim 1 or 2	£2.99					
Great Escape	£2.99					
Green Beret	£2.99					
Greg Loses Clock	£2.99					
Grid Iron 2	£2.99					
Hardball	£2.99					
Heavy on the Magick	£1.99					
Hollywood Poker	£1.99					
Hypersports	£2.99					
Ikari Warrior	£2.99					
Indoor Soccer	£1.99					
International Manager	£2.99					
Jack The Nipper	£2.99					
Jet Set Willy	£1.99					
Jocky Wilson's Darts	£2.99					
Joe Blade 1 or 2	£1.99					
Knightmare	£1.99					
Konami Ping Pong	£2.99					
Konami Tennis	£2.99					
Kosmos	£1.99					
Krakout	£2.99					
Las Vegas Casino	£2.99					
Leaderboard	£2.99					
League Challenge	£1.99					
Little Puff	£2.99					
Manic Miner	£2.99					
Masters of the Universe (film)	£2.99					
Mig 29	£2.99					
Monte Carlo Casino	£2.99					
Monty On the Run	£2.99					
Moto Cross Sim	£2.99					
Nigel Mansell Grand Prix	£2.99					
North Star	£2.99					
Ollie and Lisa 3	£2.99					
On the Bench	£2.99					
Operation Gunship	£2.99					
Paperboy	£2.99					

SOFTWARE CITY SPECIALS

Alternative World Games	£2.99	Blasteroids	£2.99	Empire Strikes Back	£2.99	Heartland	£0.50	Kinetic	£0.50	Last Ninja 2	£4.99	L.E.D. Storm	£2.99	Passing Shot	£3.99	Pepsi Mad Max	£2.99	Raspoutine	£0.50	Shadowfire	£1.99	Slaine	£1.99	Spaced Out/Realm (disc only)	£2.99	Spitting Image	£2.99	Styfe (disc only)	£2.99	Tiger Road	£2.99
Blasteroids	£2.99	Chain Reaction	£0.50	Deactivators	£0.50	Empire Strikes Back	£2.99	Empire	£0.50	Empire	£4.99	Empire	£2.99	Empire	£2.99	Empire	£2.99	Empire	£2.99	Empire	£2.99	Empire	£2.99	Empire	£2.99	Empire	£2.99	Empire	£2.99		
Chain Reaction	£0.50	Cholo	£0.99	Deactivators	£0.50	Empire	£2.99	Empire	£0.50	Empire	£4.99	Empire	£2.99	Empire	£2.99	Empire	£2.99	Empire	£2.99	Empire	£2.99	Empire	£2.99	Empire	£2.99	Empire	£2.99	Empire	£2.99		
Cholo	£0.99	Deep Strike	£1.99	Empire	£0.50	Empire	£2.99	Empire	£0.50	Empire	£4.99	Empire	£2.99	Empire	£2.99	Empire	£2.99	Empire	£2.99	Empire	£2.99	Empire	£2.99	Empire	£2.99	Empire	£2.99	Empire	£2.99		
Deep Strike	£1.99	Empire	£0.50	Empire	£0.50	Empire	£2.99	Empire	£0.50	Empire	£4.99	Empire	£2.99	Empire	£2.99	Empire	£2.99	Empire	£2.99	Empire	£2.99	Empire	£2.99	Empire	£2.99	Empire	£2.99	Empire	£2.99		
Empire	£0.50	Empire	£0.50	Empire	£0.50	Empire	£2.99	Empire	£0.50	Empire	£4.99	Empire	£2.99	Empire	£2.99	Empire	£2.99	Empire	£2.99	Empire	£2.99	Empire	£2.99	Empire	£2.99	Empire	£2.99	Empire	£2.99		
Empire	£0.50	Empire	£0.50	Empire	£0.50	Empire	£2.99	Empire	£0.50	Empire	£4.99	Empire	£2.99	Empire	£2.99	Empire	£2.99	Empire	£2.99	Empire	£2.99	Empire	£2.99	Empire	£2.99	Empire	£2.99	Empire	£2.99		
Empire	£0.50	Empire	£0.50	Empire	£0.50	Empire	£2.99	Empire	£0.50	Empire	£4.99	Empire	£2.99	Empire	£2.99	Empire	£2.99	Empire	£2.99	Empire	£2.99	Empire	£2.99	Empire	£2.99	Empire	£2.99	Empire	£2.99		
Empire	£0.50	Empire	£0.50	Empire	£0.50	Empire	£2.99	Empire	£0.50	Empire	£4.99	Empire	£2.99	Empire	£2.99	Empire	£2.99	Empire	£2.99	Empire	£2.99	Empire	£2.99	Empire	£2.99	Empire	£2.99	Empire	£2.99		
Empire	£0.50	Empire	£0.50	Empire	£0.50	Empire	£2.99	Empire	£0.50	Empire	£4.99	Empire	£2.99	Empire	£2.99	Empire	£2.99	Empire	£2.99	Empire	£2.99	Empire	£2.99	Empire	£2.99	Empire	£2.99	Empire	£2.99		
Empire	£0.50	Empire	£0.50	Empire	£0.50	Empire	£2.99	Empire	£0.50	Empire	£4.99	Empire	£2.99	Empire	£2.99	Empire	£2.99	Empire	£2.99	Empire	£2.99	Empire	£2.99	Empire	£2.99	Empire	£2.99	Empire	£2.99		
Empire	£0.50	Empire	£0.50	Empire	£0.50	Empire	£2.99	Empire	£0.50	Empire	£4.99	Empire	£2.99	Empire	£2.99	Empire	£2.99	Empire	£2.99	Empire	£2.99	Empire	£2.99	Empire	£2.99	Empire	£2.99	Empire	£2.99		
Empire	£0.50	Empire	£0.50	Empire	£0.50	Empire	£2.99	Empire	£0.50	Empire	£4.99	Empire	£2.99	Empire	£2.99	Empire	£2.99	Empire	£2.99	Empire	£2.99	Empire	£2.99	Empire	£2.99	Empire	£2.99	Empire	£2.99		
Empire	£0.50	Empire	£0.50	Empire	£0.50	Empire	£2.99	Empire	£0.50	Empire	£4.99	Empire	£2.99	Empire	£2.99	Empire	£2.99	Empire	£2.99	Empire	£2.99	Empire	£2.99	Empire	£2.99	Empire	£2.99	Empire	£2.99		
Empire	£0.50	Empire	£0.50	Empire	£0.50	Empire	£2.99	Empire	£0.50	Empire	£4.99	Empire	£2.99	Empire	£2.99	Empire	£2.99	Empire	£2.99	Empire	£2.99	Empire	£2.99	Empire	£2.99	Empire	£2.99	Empire	£2.99		
Empire	£0.50	Empire	£0.50	Empire	£0.50	Empire	£2.99	Empire	£0.50	Empire	£4.99	Empire	£2.99	Empire	£2.99	Empire	£2.99	Empire	£2.99	Empire	£2.99	Empire	£2.99	Empire	£2.99	Empire	£2.99	Empire	£2.99		
Empire	£0.50	Empire	£0.50	Empire	£0.50	Empire	£2.99	Empire</td																							

STRIKERCult • £2.99 cass
joystick/keys**STRIKER**

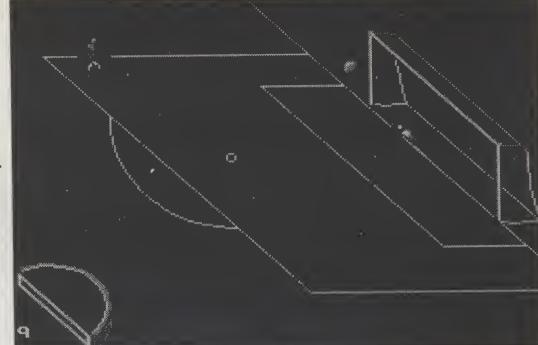
Life as a professional footballer isn't all glamour, glory, getting drunk and partying with bimbos. There's hard work to be done on the training pitch and the nerves of the big match to face.

As 'star' striker for a fourth division side you must work through a year of matches, trying to improve your goal average and helping the team to win promotion. And all the time you should stay ready to make a move if a really famous club takes an interest in you...

This is a football management sim that puts you in control of one player, not a team. You concentrate solely on career opportunities and getting your name in the tabloid press as the next Gary Lineker.

There are three parts to the game. The first is keeping an eye on the other clubs wheeling and dealing in players, trying to buy success. The second – and possibly most important section – is the training, where you get to practice taking shots. Success here improves fitness and form, which enhances your chances of scoring in the match sections.

The transfer market is a hotbed of rumours that you can play to your personal advantage by making yourself available when the big clubs come talent-spotting. Training is a three-shot test of form. Your striker is drawn



• Shoot, shoot...!

in front of the goal and a directional indicator swings from side to side, helping to place the ball. The goalie saves shots and the angles are sometimes hard to judge, but if you score then your form and asking price start to climb.

SECOND OPINION

For a decision-making football game, you don't seem to make an awful lot of decisions. AW

GREEN SCREEN*No change.***BEYOND THE ICE PALACE**Encore • £2.99 cass
joystick/keys

Before you can say 'Resident System eXtension', all manner of beasties start creeping out of the woodwork in this outing from Encore, and go on to wreak all kinds of havoc down on the farm. So logically – if logic has anything to do with legends – the town elders send you, not an army, to sort them out.

So you start the long and dangerous trek Beyond the Ice Palace, hoping to stop this nonsense once and for all. The result is an arcade adventure that takes you through tunnels and into strange lands, littered with the worst things wizards can imagine. Armed only with a single weapon, you run, jump and throw knives/swords/axes to kill people/things/monsters – and that's about all.

The game structure is terminally impaired by the speed of the foes, who move too fast and kill too quickly, so you can never really get into the game. Even the supporting cast of pretty graphics and nice sounds can't repair this damage, although they do try. Some people may find this level of difficulty a real chal-

In the match that follows a training session, you simply wait as the seconds tick by until the message that "you're through with a chance" appears. Then, like the practice before the game, the line indicator pops up and you have the chance to score when it really counts.

The standard conventions of a management sim are met, and there's seemingly endless hours of waiting around while you wait to be transferred or recover from an injury. But concentrating on one player keeps the complexity to a minimum and the game speed

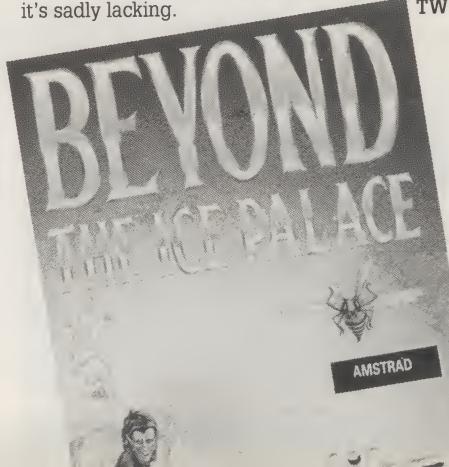
SECOND OPINION

Graphically good for its age, but far too tough to begin with. AW

GREEN SCREEN*Green ice is still visible.*

lenge, but most will just find it a frustrating and irritating experience.

In a world crammed full of arcade adventures (Myth's an excellent example) they have to be pretty special to make their mark. Ice Palace tries to be the 'tough kid' on the block, but overly dangerous opponents can never take the place of gameplay, and that's where it's sadly lacking. TW

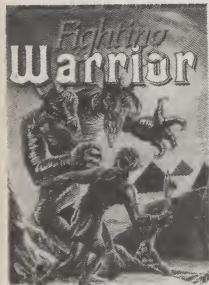


high. The chance to influence the outcome of a game with shots is refreshing, even if you do have to wait a whole 90 minutes for a single moment of glory. Management games will never be exciting, but this one's at least fun and reasonably quick. For 'wannabees' (I want to be John Barnes) everywhere, it could prove a cheap and amusing diversion. TW

FIRST DAY TARGET SCORE**Get out of the Fourth Division****The Verdict****GRAPHICS** 44% Mostly text – a few small graphics.**SONICS** 33% One small jingle plus the odd whistle.**GRAB FACTOR** 66% A speedy soccer sim!**STAYING POWER** 77% It's a long slog to fame and fortune.**AA RATING** 60% Fun but rather remote.**FIRST DAY TARGET SCORE****Survive for ten minutes****The Verdict****GRAPHICS** 77% Strong backgrounds and characters.**SONICS** 71% Good tune.**GRAB FACTOR** 44% You die very quickly... ...then you die some more!**STAYING POWER** 33% The monsters are too strong to maintain your interest.**AA RATING** 50% Reasonable arcade adventure that substitutes difficulty for gameplay.

FIGHTING WARRIOR

Mastertronic • £2.99 cass
joystick/keys



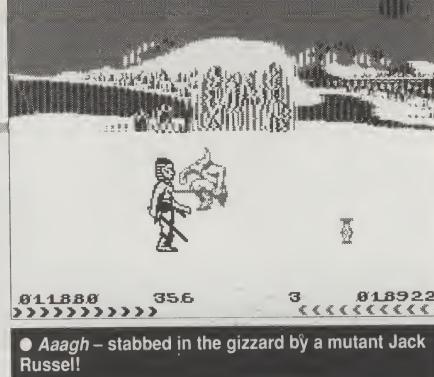
MASTERTRONIC

In the red corner... the undisputed heavyweight sword fighting champion of all Egypt. That's you, and it's that same sorry tale of daft royalty and heroic commoner. They get kidnapped and you have to risk everything to save them. But what else can one expect when you're a Fighting Warrior?

That's the plot out of the way, now it's down to some pretty intense violence. Mr F Warrior, your man, has to walk along a horizontally scrolling landscape killing monsters and guards in a bid to rescue his queen. He has a sword and a little bit of skill to help him on his way, the rest is up to you.

All he has to do is use three fighting sword strokes and few defensive parries to see off demons and devils. The most immediate need is surviving long enough to reach the next bottle of life-giving elixir, though. He needs it because with such a limited number of sword strokes he's bound to get hurt in every encounter. The monsters vary, but not much, and they're all vicious and potentially deadly.

The outline graphics show the age of this



811888 356 3 8118922

● Aaagh – stabbed in the gizzard by a mutant Jack Russell!

re-release. Combine this clue with the antiquated gameplay – where seven moves are enough to justify the game – and you know this is something of a curiosity. There's an attempt at parallax scrolling, but little else. It's just walk, fight, kill and die.

It's easy to be killed and hard to stay alive, and this mix, while knife-edge stuff occasionally, is a flawed basis for a game.

There's no room for the development of skills that will help you overpower the opposition, where by following a learning curve you get further in to the game. This is patently not the case and Fighting Warrior quickly becomes Dying Warrior as the game stagnates. Set in

SECOND OPINION

Not enough fighting moves. Slow and boring. Crushingly dull. That about covers it, I think. AW

GREEN SCREEN

Outline sprites are clear in any colour.

SAMURAI TRILOGY

Kixx • £2.99 cass
joystick/keys



You've seen the movies, one swift chop to the neck and the heads go flying. Well now's your chance to live out those Seven Samurai/Water Margin fantasies, as Kixx let you train up in the Samurai Trilogy.

Karate, Kendo and Samurai are the disciplines, and there's a whole stable full of talent who want to beat you up every step of the way. You can only win the title of Lord by defeating four others in a fight to the death. And you only have the right to go for the title once you've proved to the master that the three disciplines have been learned properly.

First you go head to head in the Karate, prancing around on tip-toe trying to kick the living daylights out of each other. Kendo and Samurai are much the same, just using different weapons and techniques. You can vary the training to gain an edge, using special techniques to improve your stamina or speed. Then you allocate the amount of time you want to spend on improving various elements of your defence and attack. The right choice is imperative and the

wrong decision here could leave you frighteningly vulnerable.

The variety of choices before each fight make the characters exceptionally flexible and very strong. These elements are actually reflected in the way the guy fights too, with hits being more damaging from a strong character but more accurate from a skilful one.

SECOND OPINION

A complex – and fiddly – combat game that's nevertheless good value. AW

GREEN SCREEN

Slightly jaded – ho ho ho.

There are some vagaries when controlling the combat, but for big sprites they handle well and fast – the joystick controls seem really sensitive. Like Fighting Warrior, the first few battles are very hard going, but here there's definite room for some skill development. This makes the game a more challenging



Hit Return To Exit.

● Never mind "hit Return" – hit the other geek!

the world of ancient Egypt, it's more of a relic than an archaeological treasure. TW

FIRST DAY TARGET SCORE

Stay awake

The Verdict

GRAPHICS 41%

- Dated main characters.
- Reasonable background scrolling.

SONICS 54%

- Authentic Egyptian music!

GRAB FACTOR 66%

- Killing is hard work but simply understood.

STAYING POWER ... 31%

- Too few fighting moves.
- Very repetitive.

AA RATING 42%

- Tired old warrior looking for a new home.

ing proposition and gives it a depth that's rarely found on the budget rounds. It's almost worth the price just to read the biogs of the other samurai – they could have been written for the *Sunday Sport*! TW

FIRST DAY TARGET SCORE

Beat someone

The Verdict

GRAPHICS 55%

- Big spites.
- Colourful backdrops.

SONICS 69%

- Oriental music throughout.

GRAB FACTOR 57%

- Hard to control at the start.
- Constant humour.

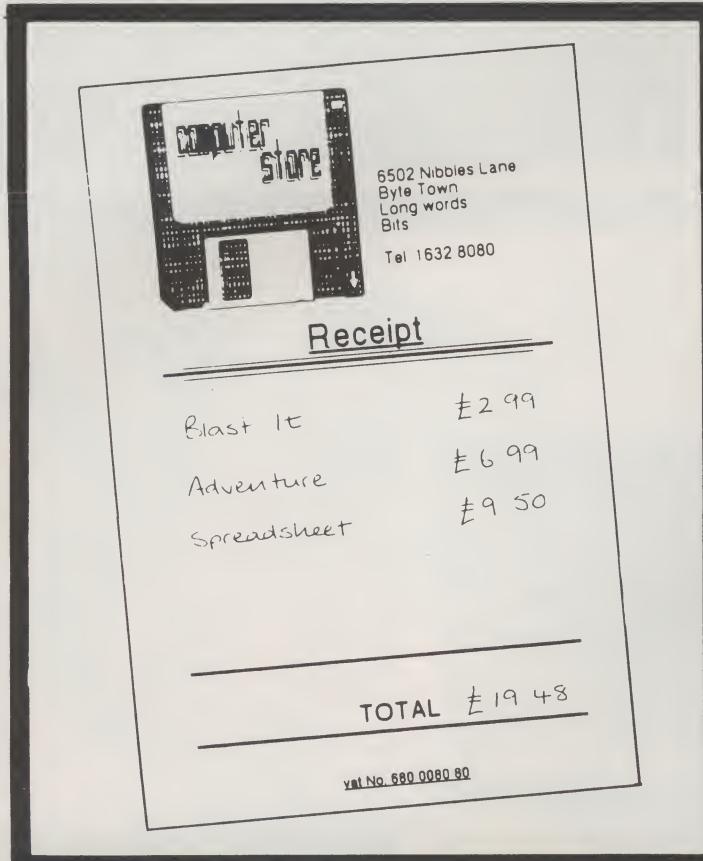
STAYING POWER ... 68%

- A learning game.

AA RATING 64%

- A fun multi-style combat game.

WARNING



**THIS SORT OF
BILL IF YOU
PAY FOR THEM**

A pirated game could result
in a visit from you
know who.

THIS CAMPAIGN IS ORGANISED BY
ELSPA
EUROPEAN LEISURE SOFTWARE
PUBLISHERS ASSOCIATION

*Any information on piracy
should be passed to
The Federation Against Software Theft.
Telephone 01-240 6756*



SCRAMBLE SPIRITS

Grandslam • £9.99 cass, £14.99 disk
joystick/keys

Fighter pilots of WWII have a certain mystique. They were the last generation of fliers who fought with guns and not guided missiles. It was the skill of the pilot and not the technology he carried that decided the outcome.

For these reasons, WWII planes have been the basis of some famous shoot-em-ups: 1942, Typhoon and last month's P-47, to name but a few. It's also the setting for this Sega licence Scramble Spirits, a two-player blast that has you bombing, shooting and strafing everything even slightly German (don't mention the war! - ed). But why "Scramble"? Well, because "Scramble!" was the command that would launch them into their planes and a life or death struggle...



● The power-up gives you extra bullets or bombs.

A horizontal shoot-em-up, the game opens with one or two pilots taking to the air. They scroll to the top of the screen and the battle begins. The planes have a double front cannon and move in all directions, while the screen rolls relentlessly down. Nazi planes wing in from the top and sides firing away, generally proving little trouble unless they pop on in an unexpected position.

The ground forces needn't feel left out, there are plenty of bunkers and tanks to put up flak. These can be bombed out of existence with the front guns, which also drop large amounts of TNT ahead of the plane. With waves of aircraft and ground fire, things can get pretty hectic, but it's nothing an experienced arcade player can't handle.

Odd things happen every now and then. Smart bombs and extra firepower appear, but prove difficult to collect, and more trouble to use than they're actually worth. Special formations of gun emplacements make things even trickier, and life shorter. The end-of-level guardians are particularly hard to kill, but far from dangerous.

The limits of the game are obvious from the word go. The monochrome (well, two-colour) world is far from enthralling to look at. The sprites are small and the bullets occasionally invisible. There's no pace in the game, you



● Two-player action makes life even easier.

● Going for a power-up on Level One.

plod along just shooting and waiting, life never getting any harder. This could be due to the lack of 'power ups' on offer, but also the fact that it's hard to make a horizontally scrolling shoot-out any more difficult without making it impossible to play.

Technically, Scramble is fine. The planes



● Head to head with an end-of-level guardian.

move where they're told quickly and precisely. Yet this can't disguise the fact that it's boring. Even in two-player mode there is little to do but hang around and slaughter people in their thousands (even a weird key selection doesn't make it any tougher). The screen speed is slow, there are large gaps between the level's end and the guardian, and precious few 'pretties' to look at in the meantime.

The credit feature just makes things worse by being too generous. It probably sounded a really smart idea in the planning stage, but effectively lets you carry on getting nowhere - slowly.

Looking at the number of shoot-em-ups Sega has designed over the years it's not surprising that it comes up with the occasional

donkey. This is one of them! It runs to the same old formula and doesn't introduce, or even consider, any fresh approaches. Had it been done in glorious technicolour then at least there would have been cries of "nice graphics shame about the game"...

Scramble Spirits illustrates the worst side of the games industry, where any licence is preferable to the risk involved in an original product. And software houses are often unable to change the basic design of the licence even to make it suit a home computer instead of an arcade.

Scramble is programmed proficiently and plays without a glitch, but it takes more than that to make a good game. It plays like a Kylie Minogue record - everything's in the right place and does what it should, but the end result is incurably bland. Besides, at least Kylie Minogue's got nice... (er yes, that's enough of that - ed)

TW

SECOND OPINION

Quite apart from the fact it's an obvious Speccy port, it's just too easy and too dull. It's bad enough in two-player mode, where all there is to do is argue over who gets the power-ups, but for one player it's worse.

RL

GREEN SCREEN
Perfectly suited.

SCRAMBLE SPIRITS



FIRST DAY TARGET SCORE

Finish the second level

The Verdict

GRAPHICS 41%

- Dull Speccy port.
- Small sprites, invisible bullets!

SONICS 50%

- Average acoustics.

GRAB FACTOR 66%

- You can go far on the first at the try.
- Endless credits!

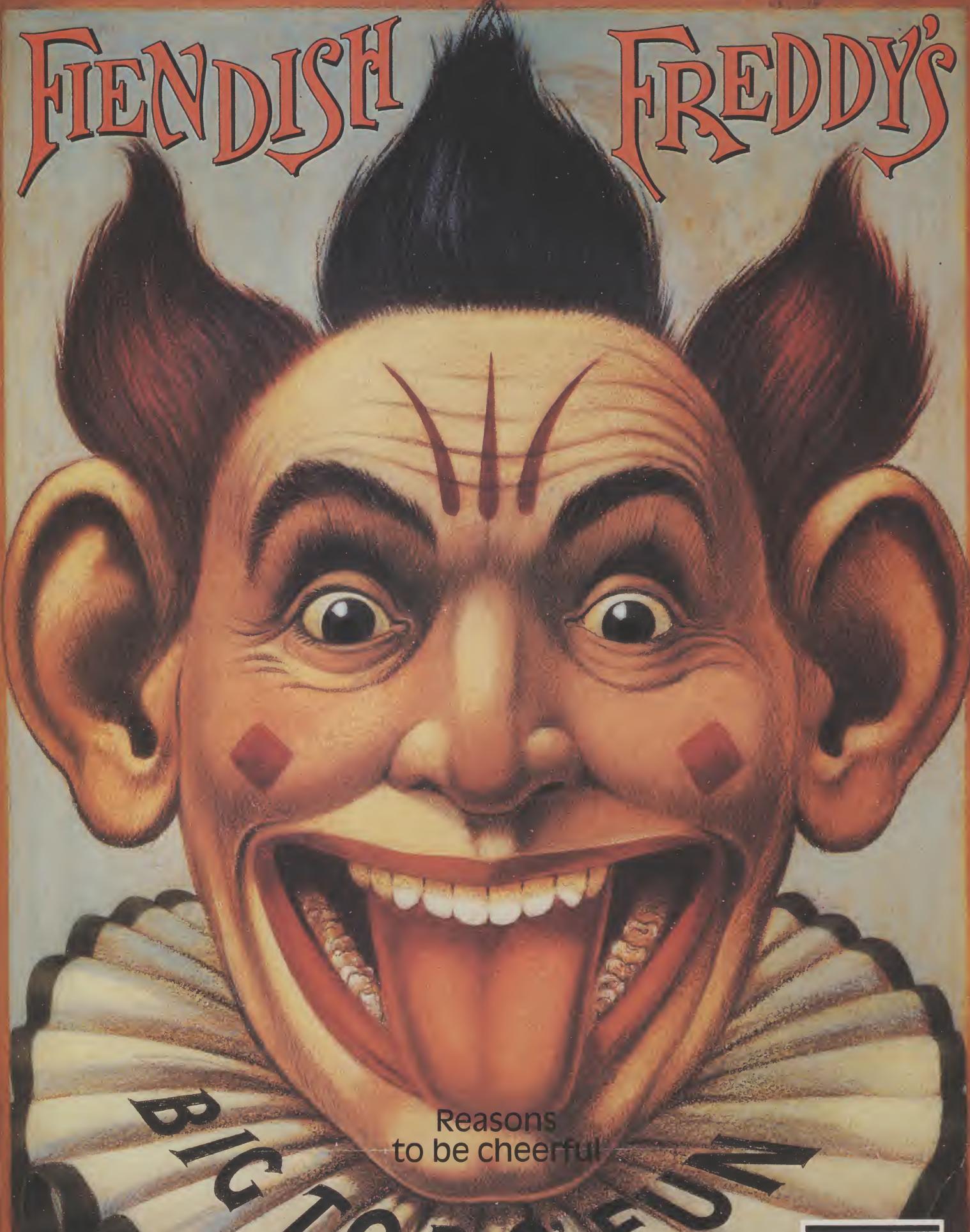
STAYING POWER 31%

- Gets dull very quickly.
- Nothing different happens.

AA RATING 41%

- Technically together but uninspiring arcade.

FIENDISH FREDDY'S



Available for Amiga, ST,
IBM and compatibles,
Commodore 64,
Amstrad and Spectrum.

Mindscape International Limited, PO Box 1019, Lewes, East Sussex BN8 4DW. Tel. (044 486) 545/547



WILD STREETS

Titus • £9.99 cass, £14.99 disk
joystick/keys

Do you get a kick out of your job? James Taylor does. In fact he gets kicks, punches, head-butts and even knees to the groin, all as part of his daily routine. He's an enforcer for the CIA, a super spook who takes on missions too dangerous for even the most elite army units. It's his task to clean up New York, where once-peaceful suburban boulevards have become Wild Streets.

The year is 1998. Organised crime barons had a stranglehold on the metropolis until two



• A thug goes flying after a crisp right to the chin.

weeks ago. Then, a massive security operation was launched in one last, desperate bid to save the city. The drug lords' response was swift and decisive. They kidnapped CIA top dog John Stevens and will kill him if the cops don't ship out immediately. Your job, as James Taylor – hitman and kick-boxer extraordinaire – is to set him free.

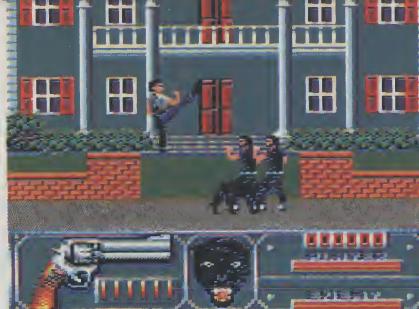
The concept's pretty straightforward. You walk your main man horizontally along scrolling streets, beating thugs out of your way for five levels, in order to save your boss. Then you guide your lord and master back through the same five levels to a waiting helicopter and safety.

On the way, you get the assistance of a large black panther who leaps into the fray at a moment's notice, and an even larger pistol that can be used to top any particularly sticky opponents.

Fighting needs fast reactions and a whole gamut of moves to allow you to out-react and out-manoeuvre opponents. James Taylor has lightning-fast hand speed and 15 different actions – a true terminator. The other guys have a similar range, but rarely stray away from predictable patterns, making them easy meat for the quick thinker.



• James Taylor feels the heat in the later levels.



• Great animation gives your fighter an edge.

If the going gets too heavy and your energy bar dips to dangerous levels, in pops your puss cat and tears a few of them to shreds. If you're far enough away you can blast them with the gun, too, but with only a limited number of shots and few chances of a reload, discretion is definitely the better part of valour.

Once you manage to get to the end of the fifth level, your panther pal does a runner and you pick up the zombie-fied CIA boss (no, not George Bush!) who follows you slowly back. Objective One is staying alive and keeping on the move. Stand around revelling in the fist fights, and the bad guys begin to kick the living daylights out of Mr Stevens, your boss. If he dies then it's game set and match to the Sicily squad. James Taylor can beat his boss about too, but that smacks of stupidity even if it is satisfying.

As an action adventure, *Wild Streets* relies on its graphics and animation and in that respect is above reproach. Flashing fists and feet are the result, with James Taylor's moves clear even in the heaviest traffic. The incidental graphics, too, as we've come to expect from Titus, are viciously pretty with two stunning overscan screens thrown in for good measure.

SECOND OPINION

Looks great – the graphics are almost 16-bit – but as far as I can see it's just another scrolling kick-em-up. RL

GREEN SCREEN

Mean and clean in green.



• If you can't beat 'em, shoot 'em!

cuted game that comes close to simulating the speed and accuracy needed for serious street-fighting – but it's unbalanced. James Taylor is too powerful to begin with, while the lack of variety on the villain front means that they just become agonisingly difficult to catch rather than kill.

After a few quick and very violent games you'll realise there are two ways to play; either cheat and go for victory or stand and fight. If you decide that winning is the only thing that matters, then it's far too easy to complete. It's streets ahead of games like *Ninja Warriors* (with which it shares a great many gameplay features) but isn't nearly wild enough.

TW

FIRST DAY TARGET SCORE

Reach John Stevens

The Verdict

GRAPHICS 88%

- Slick animation.
- Great backdrops.

SONICS 83%

- Constant theme throughout.
- Strong effects.

GRAB FACTOR 77%

- Thugs are easily beaten.

STAYING POWER 42%

- Easily finished if you 'cheat'.
- Very frustrating in parts.

AA RATING 71%

- Strong fight sim, but lacks that extra something.



Wild Streets is a beautifully exe-

BATTLE TILL YOU BLEED!

HEAVY METAL

CBM 64/128,
AMSTRAD
CASSETTE
& DISK.
IBM P.C.

By Bruce Carver, Roger Carver
and Breat Erickson.

SPECTRUM
48/128K
CASSETTE.
ATARI ST
AMIGA



ACCESS
Software incorporated

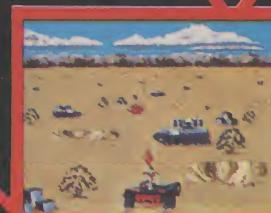
INCLUDES
FREE!
BEACH
HEAD
GAME



8-BIT FORMATS ONLY.

© ACCESS SOFTWARE INC. 1990.

Screenshots from various formats



U.S. Gold Ltd, Units 2/3 Holford Way, Holford, Birmingham B6 7AX. Tel: 021 625 3388.

RAINBOW ISLANDS

Ocean • £9.99 cass, £14.99 disk
joystick/keys

Somewhere, over the rainbow, way up high... lives a little boy who wants to go adventuring. He wants to see the world of Rainbow Islands before it's flooded out of existence once and for all. A land so cute it makes My Little Pony and The Care Bears look like Detroit street gangs.

The aim of the game is to work your way to the top of a platform world, avoiding all these big, horrible beasties who are out to get you. To help you survive this ordeal you've one special weapon. Not a gun, not a bomb, not even the ability to 'tolchock someone in the yarbles' (Clockwork Orange? Stanley Kubrick? Oh, never mind) - just rainbows!

Now this isn't the raw deal it may sound, because if there's one thing the inhabitants of the islands don't like it's rainbows. They hate



• When you visit Cornabt Island you'll need all the double rainbows you can lay your hands on.



• When you die, you cry.

them, in fact, mainly because they're fatal! Now these rainbows can also support your body weight, which proves very handy indeed! Fire one out in front and jump on, and all of a sudden you've a solid platform in mid-air. A definite must in a land of ever-smaller platforms that are ever-further apart.

The star of this cutesy extravaganza is a small lad, the villains of the piece all manner of monsters and machines. Our hero (who can be politely described as stout) wobbles more

than runs, but his size doesn't inhibit his ability to leap up to the next level. When he finds himself out of reach of the next platform, then the true value of the rainbows becomes apparent, paving the way ahead like multicoloured stepping stones (*I think I'm going to be sick - ed.*)

On his travels to the top our hero encounters mountains of food left lying around, and of course picking up the grub gives him special powers in the best platform game tradition. The bows come in handy here too, because if your rainbow touches an object it's yours!

The first four stages are on Insect Island, a land filled to overflowing with caterpillars,

bees, ladybirds, butterflies - and a spider big enough to put Miss Muffet off curds and whey for life. Playing with the rainbows reveals that you can trap your enemies as well as kill them, but don't

mess



around for too long or it will all end in tears.

Killing a bug results turns it into a munch or, even better, one of the magic crystals you seek. When one of them gets you, a tantrum's the result. Over onto his back goes the little guy, feet kicking and spurts of angry tears squirting out of his eyes.

Soon, the ways the various insects attack become obvious, as do the special properties of the items collected on your journey. The best of all has to be the double 'bow jugs'. Get one of these and the range of your rainbows increases by a factor of two, get another and it's tripled. You can zap the creepy crawlies from a safe distance, and get items almost without moving.

As you work your way through the first island the text messages give you helpful hints like "hurry up" - you'd better pay attention. The whole island is flooding and you must make it to the top before time and tide catch you out. Hang around too long and the water will start creeping up the screen...

Reaching the top of the world earns you the right to some freebies. A shower of stuff flies up, which you've only got a limited time to catch. It doesn't seem to do much good, though, apart from earning points. And points soon lose their importance as each level becomes an individual challenge that has to be finished no matter how many goes it takes.

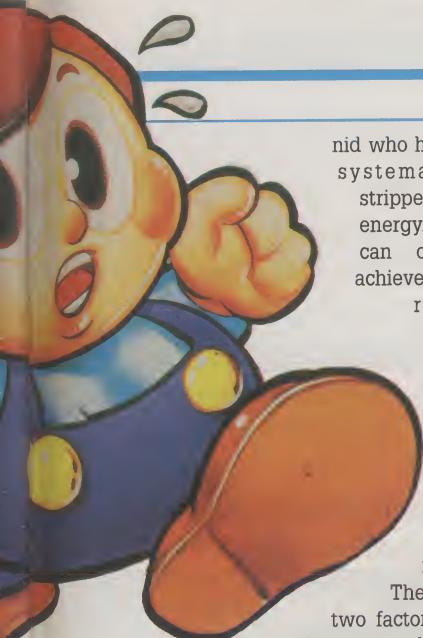
The conclusion of the Insectoid Isle is a showdown with the big spider, a super arach-



• Grab those eggs for extra points.



• Look out for those helicopters.



nid who has to be systematically stripped of his energy. This can only be achieved by running, jumping and

shouting a lot.

The first two factors reflect the gameplay, the third increasing difficulty.

After topping the spider you travel to Combat Island, which is inhabited entirely by small scale models of military vehicles. These are cute but deadly, and actually fire back (*don't blame 'em - ed!*). Island world after island world follows this in nice small stages, each with a harder nasty to kill and a more severe flooding problem. The difficulty factor increases almost as fast as the addiction.

The gameplay level is intense, as more and more of the platforms can only be reached by carefully laying a rainbow trail

SECOND OPINION

Nice graphics and very playable, a really good game. The soundtrack reinforces the cutesy style wonderfully - but how much cute can you stand?

AW

GREEN SCREEN

A waste, but perfectly playable.

ahead of you. This is dangerous stuff, especially once the floods have become a visible threat, because if you hit a 'bow wrong then it crumbles into multi-coloured dust. This leaves you hurtling downwards, desperately trying to find something to land on before splashdown. There are also jewels to collect en route, each displayed at the bottom of the screen. But for the first few games these are



• Use the rainbows to leap between platforms, but watch out - they don't last for ever.

of little interest as you strive to get further than ever before.

The overall execution is exceptional, with only the slightest hint of flicker on the main sprite to mar the extremely polished effect. This is soon forgotten as the rainbow magic works its spell. It's simple in concept and laid out as if to appeal to the three year olds among us. Look deeper, and after a few games you'll be hooked.

It's refreshing to see a game that doesn't rely on violence to sell itself, just solid gameplay, vivid colourful graphics and a neat coin-op licence. *Rainbow Islands* has a blend of overtly cute humour and cunning design that will win it a horde of fans.

One thing, though - whatever you do, under no circumstances should you ever play *Rainbow Islands* in front any younger brothers and sisters, or your CPC won't be yours much longer!

TW

The Verdict

GRAPHICS 90%

It's all so cute!
Glorious technicolour - eat your heart out!

SONICS 65%

Maddeningly twee and constant tune.
Few effects.

GRAB FACTOR 94%

Instantly addictive.
Simply played.

STAYING POWER 92%

Technique is all-important.
You just have to finish the next level.

AA RATING 88%

Frighteningly fun and overpoweringly cute.



• A truck attacks on Level Five.



• Kill the spider to proceed.



• The freebie section at the end of a level.

BALROG

Balrog the Bold bulldozes his way through another bag of (*that's enough – ed*)

Balrogs! Arise from your wintry sloth! Gird your loins and brush your teeth, for the Balrog has arrived! Read the many missives the Balg has collected from his mail-box in the gnarled oak somewhere in the depths of Mirkwood. Plus the reviews of adventure clubs and all the usual news, clues and help for Balrogs in distress...

Clue Sniffing with the Balrog

If a game's really getting up your nostrils, then don't despair – help is at hand. This month's tips come from the Witch of Wessex, Jerome Young, Dave Harvard, Fizban, Stuart Whyte, Peter White, Daniel Tish and Ken Dean...

Acheton

Toll Hole, S, SW, D to inside pillar, S, SE to Bend in passage, Ex2 to Timeless Cavern, wait until lamp is shining very brightly, S, SW, get the ivory chess piece, NE, E, get amber ornament, E to spiral stair, UPx2, W, read writing ("EXAKCIP"), E up the gallery, get crucifix, Dx3, W, S, Wx2 to bend in passage, NW, W, SW, E, S, get stake, N, E, NE, E, SEx2, get amethyst pendant, NW, SW, W, SW to room with Black, Blue and Grey stars.

Rigels Revenge

Escaping from the basement: Wear only your nightsights, climb onto the sink, get the medikit. Drop all except your medikit and nightsights out the window – and I mean all! Press some buttons on the kit, bend bar up, pull bar, pull bar hard, bend bar up, then drop the medikit out the window then jump out yourself.

THE BALROG'S POSTBAG

• Your wish is my command

Could you please print somewhere in your hallowed pages a list of fanzines containing maps, help etc. which would be very useful. I've only been playing adventure games for about 12 months. I cut my teeth on a game called 'Heavy on the Magick' and for my money this is one of the best games I've ever seen. Were there ever any follow-ups to the game as was promised in the accompanying booklet? I still haven't managed to get through one of the exits – 'paradise' – and if you know the password then please put me out of misery. Long live Axil (and Balrog of course).

Stephen Turzynski

No sooner said than done Stephen! See elsewhere in this column for a complete list of adventure clubs available to the CPCer. Heavy on the Magick was unfortunately never expanded, so it looks like Axil is forever destined to roam the dungeon. If anyone can help Stephen with the password please write in.

• Cryptic Hints!

"Why don't you offer a prize for the best cryptic hints? This way us adventurers with very little brain could at least salvage some pride from the situation of being stuck, i.e. a lot of the time a gentle push is all that's needed to provide the key to finding a solution."

Tim Bell

Great idea, Tim, the problem being that if you are not careful cryptic hints can be so obscure that you don't realise what it means until after you have solved the puzzle!

• Aaahgh!

"I've discovered another bug in Rigels Revenge!" club. Part two doesn't seem to work – could you please give me Mastertronics' address so I can replace it..."

Daniel Tish

Mastertronic's address is 2/4 Vernon Yard, Portobello Road, London W11 2DX.

Scapeghost

Moving David Ridge's urn enlists his help.

Search for Largo Grann

- Type 'One Hundred and Ten' to get the password right on the cabinet.
- Keep waiting at the strange construction until the bag of Shellac appears.
- Examine wall in Star view lounge.

Guild of Thieves

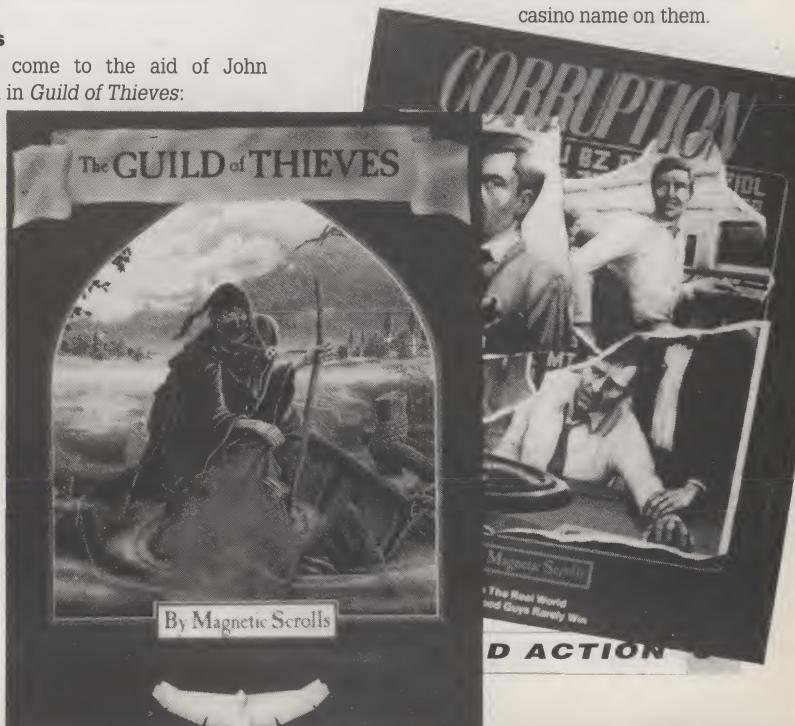
Peter White has come to the aid of John Gibbins's problem in *Guild of Thieves*:

If he has all the treasures banked then he must go to the bank where he will find that it is open for business. He still has a lot of tricky problems to solve and his final aim is to get back to the boat with all the treasures. When the master thief sees all the treasures the game is over.

Corruption

And to Paul Daykin's aid in the land of *Corruption*:

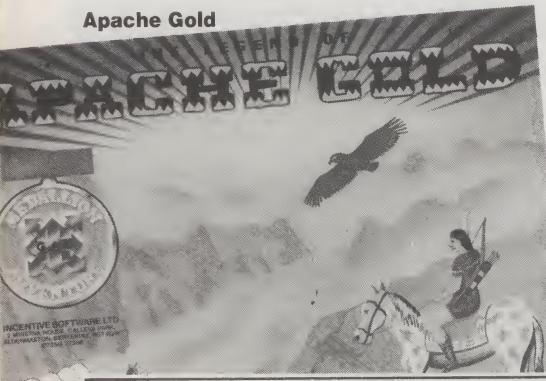
You cannot drive out of the car park. There is no need, as all the locations in the adventure are accessible by foot. To enter the casino you need to prove to the waiter that you know it exists. Two items can do this, either the casino chips in David's safe or the book of matches with the casino name on them.



Lurking Horror

Ken Dean has written in with the answers to Lorry's problems in *Lurking Horror*:

To get rid of the monster: Go to the great dome, climb rope, you can't get the ladder because you're carrying too much, so drop all, get ladder and lower it. Take all and put all in container. Wear gloves, open door, out, U to the very top of the Dome. Get plug, get paper, read paper which you will find is a suicide note. D, in, close door, Dx2, Ex2, N (Fruit & Nuts), D, SE, wear boots, Ux2, read sign, open door with master key, out. You now will be in a very critical situation where timing must be perfect. U, when something smashes into the dome behind you, D, examine shape. The creature should pounce and be right next to you on the parapet. Throw stone off roof, the creature will then follow and be seen no more, well at least for some time. Then go back up and dig under the peach tree and get the hand.

Apache Gold


Hot Dry Desert: E, talk to Doctor Dodgy, given free sample, examine and get the jar, E, talk to Jake, get sack, N, get bottle, N, get rope, read tombstone, Up, cut branch (it falls into the rapids and floats to the shallow pool), D, Sx2, Wx2, S, throw rope, Up, give cure to the eagle (makes it's wings get sticky which stops it flying and stealing the corn), D, N, enter wagon, flick reins.

Rigels Revenge

Daniel Tish has written to help Trevor Fuller in *Rigels Revenge*: To cross No-Mans land... Ex2, S, SE, E - this should take you across.

HELP!

- **Tim Bell** is stuck in a number of adventures:
 - *Rigels Revenge*: I don't know what to do when you have the gun, bomb, uniform and detector.
 - *Shard of Inovar*: I am stuck at the start, I have seen the symbol in the boulder and that's it.
 - *Venom*: I have found where the parchment is but as soon as I get out of the hole and try to go somewhere some idiot with a bow shoots me! Help me please!
- **Ken Dean** is stuck in C Sharpe's *Werewolf Simulator*:
 - Where can he get a mould and melt the silver to make some silver bullets?
 - Where does the bloodhound come into the story?

JUST FOR LAUGHS

Thanks for these adventurous rib-ticklers are due to Antcrusher, Ludwig the Egg, The Grue and Dave Harvard.

Sorceror

- Disrupting Temporal Stability in the mine (take the Golmac scroll a second time, or give yourself a different combination).
- Don't cast Vardik on yourself before casting Swanzo on Belboz.
- Aimfiz Helistar and Frobar.

Suspended

- Send Poet off to the East, towards the filtering computers. He dies in a most eloquent way.

Zork

- Just for fun, try fighting the mailbox.

Zork II

- Say "Plugh"

CONTACTING THE BALG

For those wanting to contact 'Uncle Balrog', write to him at the normal AA address. The Balg is hungry for letters of all sorts so write now or you may find yourself on the Balrog's menu...

COMPETITION WINNERS

Level 9 Competition

The answers to the brilliant Level 9 competition were:

1. What is the surname of the star of Gnome Ranger and Ingrid's Back? BOTTOMLOW
2. What was Level 9's first science fiction game? SNOWBALL
3. Name the Level 9 game that has recently opened as a film.

Question three stumped a lot of people and answers varied from *Return to Eden* to *Adrian Mole*! Of course the correct answer was *Erik the Viking*, as all Level 9 fans will know. (though the Balrog in his generosity also accepted *Lancelot*.) The three software and T-Shirts winners were Joan Pancott, Mandy Rodrigues and Lorna Patterson, with the runner-up prizes of Level 9 T-shirts to Dave Harvard, Bob Adams, Stuart Marini, Darren Stephens, Alan Cook, Debby Howard and Ken Bond.


Tolkien Competition

The Tolkien Competition to 'Draw the Balrog' prompted some very strange entries, including one of the Balrog skateboarding armed with a chainsaw! But the final winners were Mr David Graham (absolutely brilliant!), Simon Tierney, Paul Claydon, Daniel Bornill & Antcrusher whose marvels of modern art are displayed here.



THE BALROG

Adventure club round-up

● Confidential

Confidential is the bi-monthly magazine of *Official Secrets*, the adventure club run by Special Reserve. *Confidential* does not just cover adventures but all thinking games as well as Play by Mail, Chess, Role-Playing etc. It is now the largest Adventure Club around (ACL was at one time, until it lost its reputation) with over 3,000 members, and offers two games on subscribing: *Myth* and *Gnome Ranger*.

Unfortunately Magnetic Scrolls never converted *Myth* to the CPC but you get a 'surprise alternative' which at the time of writing was *Captain Blood* (if you have either *Captain Blood* or *Gnome Ranger* OS will replace them for something else).

Included with subscription is a free adventure helpline (very similar to the Balrog's own *L&LOA*.) Subscription also includes membership to Special Reserve (the 'exclusive gamers club').

Overall, *Official Secrets* is an expertly-produced magazine with a very impressive list of writers which is well worth subscribing to. Be warned, though, this magazine is much more 16-bit biased than some, and you may not find much about the Amstrad, even though there are many general interest articles which apply to many machines.

Joining *Official Secrets* costs £22 (UK) for a years membership. For further information, call John Trevillian on (0279) 726585 or write to him at PO Box 847, Harlow, CM21 9PH.

● Adventure Probe

Adventure Probe is more of a group of friends than a formal club, and as such has a lovely atmosphere and many 'in' jokes. At first it appears to be quite difficult to join this elite group of adventurers, but they are all very friendly – before you know it you're part of the crowd.

As well as a comprehensive monthly magazine, *Probe* offers an adventure solution database for over six hundred games and many other facilities such as a helpline. *Probe* costs just £1.50 a month and just has to be the Balrog's favourite adventure magazine – it is very difficult to explain the enjoyment of being a *Probe* reader. Buy a sample copy today!

Mrs Mandy Rodrigues HBalg, Editor, *Adventure Probe*, 67 Lloyd Street, Llandudno, Gwynedd, LL30 2BN or Tel (0492) 77305 at any reasonable hour.

● Spellbreaker

Spellbreaker is a monthly magazine which publishes maps, solutions and tips only. As such it is very good but it doesn't unfortunately have the atmosphere



Lords & Ladies of Adventure

Grovel before the Lords and Ladies of Adventure! These brave adventurers have risked their lives to bring back from the brink of darkness and disaster hints and tips that could save your lives! So, if you're stuck in a game, drop them a line (NOT forgetting to include an SAE) and they will do their best to answer your cry.

Adventure Quest • Aftershock • Apache Gold • Arnold Blackwood Trilogy • Beer Hunter • Boggit • Bored of the Rings • Brawn Free • Bugsy • Colossal Adventure • Circus • Classic Adventure • Cutthroats • Dodgy Geezers • Dracula • Dungeon Adventure • Dungeons Amethysts • Alchemists n Everything • Emerald Isle • Enchanter • Escape from Koshima • Espionage Island • Fantasia Diamond • Forest at the Worlds End • The 4th Protocol • Football Frenzy • Galaxies • Gems of Stradus • Gnome Ranger • Gremlins • Haunted House • Heroes of Karn • Hitch Hikers Guide • Hobbit • Hunchback adventure • Imagination • Inca Curse • Jewels of Babylon • Kentilla • Knight Tyme • Kobyashi Nuru • Leather Goddesses of

Phobos • Lords of Time • Lurking Horror • Message from Andromeda • Microman • Mindshadow • Mordons Quest • The Mural, Mystery of Indus Valley • Necris Dome • Never Ending Story • Nythyl • Pawn • Questprobe III • Rebel Planet • Redhawk • Red Moon • Return to Eden • Return to Oz • Rigels Revenge • Robin of Sherwood • Robin of Sherlock • Seabase Delta • Snowball • Sorceror • Souls of Darkon • Spytrek • Sphinx adventure • Star Wreck • Stolen Lamp • Subsunk • Sydney Affair • Theseus • Tomb of Kuslak • Very Big Cave adventure • Warlord • Woodbury End & Zork 1! **Darren Stephens. Tel: (0795) 473490**

Hitch Hikers Guide to the Galaxy • Leather Goddesses of Phobos • Lurking Horror and Moonmist. **Ken Dean, 63 Elmhurst Avenue, Oulton Broad, Lowestoft, Suffolk, NR32 3AR**

Aftershock • Brawn Free • Case of the Mixed up Shymer • DAA • Experience • Fantasia Diamond • Forest at the Worlds End • Grange Hill • Haunted House • Heroes of

Karn • Kobyashi Nuru • Lancelot • Lords of Time • Message from Andromeda • Mindshadow • Rigels Revenge • Seabase Delta • Spytrek • Subsunk • Terrormolinos • Three Weeks in Paradise • Trial of Arnold Blackwood and Warlord. **Debby Howard, 10 Overton Road, Abbey Wood, London, SE2 9SD**

Meanwhile, what about you? Have you finished a game recently, and would like to offer help to others? If you would, drop me a line giving your name and address and the games on which you're offering help. Everlasting fame and fortune will come your way, not to mention the chance of making friends with people far and wide. If you're REALLY keen, you can include a phone number, but DON'T do so without first checking with other members of your household. You may receive many calls, and adventurers tend to keep strange hours! And if you're phoning one of the illustrious Lords, do please keep your calls to sociable hours - between 6:30pm and 10:00pm, is generally the best time for most people.

of the other clubs. If all you want is adventure solutions, then *Spellbreaker* is for you, but otherwise try somewhere else.

Spellbreaker costs £1.50 a month and is available from Mike Brailsford, 19 Napier Place, South Parks, Glenrothes, Fife, KY6 1DX or Tel (0592) 757788.

● Adventure Coder

Adventure Coder is a great monthly magazine edited by Chris Hester, and is all about writing adventure games. Thus it has articles on creating intelligent characters, atmosphere and hints and tips for making the most out of the various adventure creators (a bit like an extended *Programming with the Balrog*). There is an *ADLAN* column written by John Packham and many articles on GAC and especially PAW.

If you enjoy writing adventures it is essential reading and well worth the price of just £1 an issue. More details can be obtained from Chris Hester, 3 West Lane, Baildon, Near Shipley, West Yorkshire, BD17 5HD.

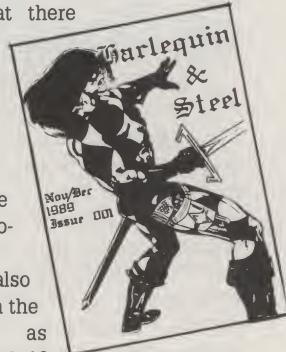
● Harlequin & Steel

Harlequin and Steel is created by Inter-action, a group of ex-Newsfield writers (mostly from *The Games Machine*) who have got together to form an adventure club. *Harlequin & Steel* has

only been out for one issue and, although it was very professionally put together, the

Balg didn't feel that there was much in it. However, the whole point of *H&S* is that the readers interact to improve the magazine, so obviously in future issues a more clubby, friendly atmosphere will develop.

The first issue also seemed to suffer from the same problem as *Confidential* – too much 16-bit coverage. An annual subscription costs £15. As well as the magazine, the subscription also covers a telephone helpline. For more information write to Interaction at the Cottage, Ashford Carbonell, Shropshire, SY8 4DB.



● Adventurers Club Ltd

Adventure Club Ltd was the largest adventure club in the UK but it gained a bad reputation when it had some financial difficulties. The club has now been revamped and Henry Mueller, the editor, is back.

This is a difficult one to recommend – although the club was once the biggest and best at one time, the temporary disappearance of Henry for over three months caused quite an uproar and, although I wish Henry luck with *ACL*, I feel I cannot recommend it, even though it has an impressive magazine, helpline and software support. *ACL* costs £24 annually (as well as an optional £7.95 for the *ACL* binder and £2 for the starter pack).

More information can be obtained from Henry at 64c Menelik Road, London, NW2 3RH

Heart of the machine

The CPC is not just a leisure machine. Electronics student Alan Robson has been using his CPC in the fight against heart disease, as TRENTON WEBB finds out...

Alan Robson is in his final year of a degree in Computing Science and Micro-Electronics. He usually works on Newcastle University's mainframe computers – an Amdahl 5860 and an Encore Multimax, but during the winter recess he found himself with a project to start and 250 miles from the nearest link to the university system. So he simply turned to his family's CPC 6128 for quick computing power.

Alan's brief was to design analytical software for ECG (electrocardiograph) monitoring equipment – the machines that go "ping"! Currently, there's a problem in the treatment of certain conditions due to the natural background noise of the body, which interferes with the "wave" read-outs. It was also difficult getting a number of waves to "standstill" so that they could be analyzed comparatively. The idea was to use the wave correlation to eliminate background noise and help to pinpoint underlying trends. The alternative was relying on mere luck to spot these minute variations being repeated among seemingly endless paper printouts.

The condition in question occurs when patients have an embolism (blockage) or like disorder that causes part of the heart's nervous response system to malfunction or die. This is curable, but without the proper analysis the correct quantities of medication cannot be prescribed. Underdoses are ineffectual, overdoses – obviously – dangerous.



Smoothing over the cracks

Alan's aim was to eliminate interference and to produce a representation of a patient's average heart wave. To do this the first wave is drawn on the screen, then the computer overlays the next reading on top and begins to adjust the drawn wave by a process known as correlation and convolution. The principle is that by combining several waves in this way, individual glitches can be smoothed out.

This has the effect of smoothing out the wave, reducing the influence of any non-rhythmic and therefore non-heart sounds. The more information the program receives, the smoother the wave form will become as a more conclusive 'average' is established. Any regular interference, such as that caused by a blockage, is thus more obvious.

Sound/signal information can be either digital or analogue. Digital is preferable as there is none of the customary – and unavoidable – background noise associated with analogue readings. A good comparison is the difference between ordinary records and CDs.

Analogue data is awash with background noise due to its continually variable nature. Digital information, on the other hand, assigns distinct 'discrete' values, (eg 1, 2, or 3.5) to each recorded sound.

Analogue information can be "digitised", however, by rounding the analogue value up or down to 'fit'. This gives the researcher a more concrete foundation on which to build and more precise and understandable results. Needless to say, in such a precise science as ECG monitoring, a firm understanding of the maths involved not only in the qualitisation, but also in assigning the correct correlative values is essential.

Signal processing

Alan's program relies heavily on signal processing, which is essentially turning sounds

ALAN ROBSON

Alan Robson is in the third and final year of a computer science course at Newcastle University. Sponsored by British Telecom, his particular brief is that of Microelectronics and Software Design. The course he's taken is just one of host of similar courses offered at Newcastle. His first year was spent getting to grips with the delights of PASCAL, while during the second year he had to learn the ins and outs of even more advanced programming systems. In the third year the course features a project which can be chosen from a list of nearly 60 topics – you can even suggest your own, as long as the lecturer in the relevant department has sufficient expertise in the subject to know if you're fibbing!



As with many university research projects it is unlikely Alan's work will result in new machines or software that will be directly trace to his work. But now the essential first steps have been taken the principle is more than likely be developed further when other students, now in their second year, come to chose their projects.

In this, way a bank of information is built up that will help save time, money – and possibly even lives.

into reliable computer data. Once digital values have been assigned to the data it can be examined to see if it is a periodic signal (one which is repeated on a regular basis, such as a sine wave) and essentials such as the fundamental (the lowest frequency in a periodic signal) and its harmonics (exact multiples of the funda-

● Newcastle University – home of Alan Robson's heart research project.

mental) can be calculated. These values make it possible to set about displaying them on screen, by using them to calculate X and Y coordinates.

Getting further information and plotting out a single 'period' then requires processes known as Fourier Transforms, which are used to compute the frequency spectrums of sampled signals. These only give 'square' waves, so they must be used with a filter to remove the higher frequencies. By filtering out certain 'harmonics' it is then possible to produce a 'smooth' wave. For sampled data the filter consists of a string of numbers (coefficients) which are 'convolved' with the signals.

The coefficients and sampled input are convolved by a six-stage process, after which the data is ready to be used. All that is left is the further 'matched filtering' of the mean value (or DC offset). Matched filtering is simply where you wish to detect a signal, know what it looks like but don't when it's going to occur. This is like radar, where certain properties of the wave form are known, and it's the differences from the known wave form that are of interest, but has the benefit of being far more tolerant of random noise.

Noise pollution

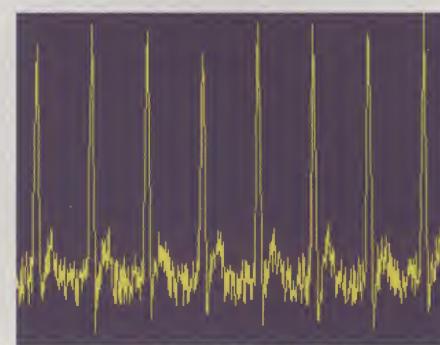
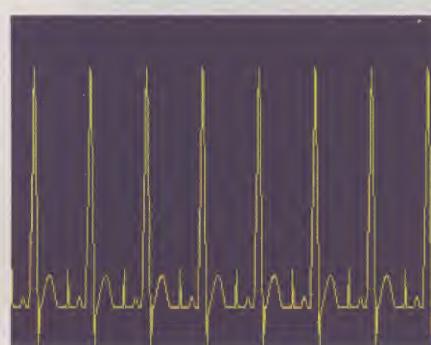
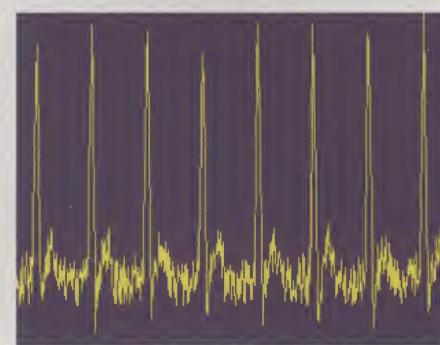
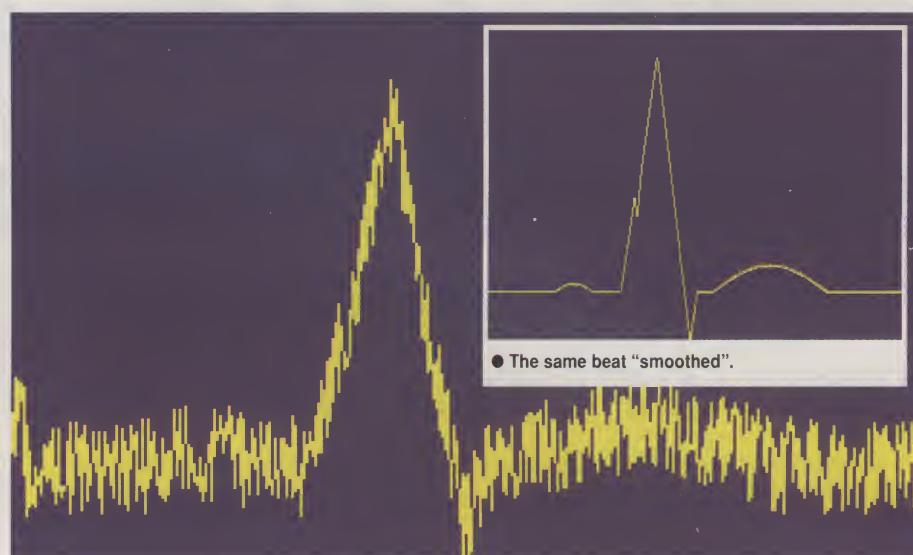
The other problems faced when dealing with such a topic are varied indeed, but the biggest nightmare is controlling the amount of additional noise that the system picks up when measuring a mechanism like the heart. Logically, if you're trying to find out about every pulse that passes through the heart's muscle then you are destined to accumulate a large amount of peripheral interference. There's noise from the skeletal muscles are receiving similar electrical pulses and even external interference from sources like unsuppressed power cables. These are dealt with using the correlation factor included in the program, where continual assessment and overlaying of the average readings means that all such impulses are eventually ironed out.

It wasn't practical in the CPC stage to use

CRESTS OF A WAVE

The ECG wave that Alan is experimenting with has three distinct parts that occur in one cycle or beat. The P Wave is first, which is produced by the Atria contracting and forcing blood across into the ventricle. The QRS complex follows, as the ventricle contracts, forcing the blood out into the body. As the P wave represents only blood being sent from one side of the heart to the other, so the peak is relatively small. The QRS complex represents the major propulsion for circulation, is the biggest, and can be seen as the large peak on the graph. The final wave – the T wave – is where the heart relaxes getting itself ready for the next cycle.

This is where the software comes in to its own – it's here that the problem can be best identified. As the the wave falls after a peak, any notches in the wave can indicate that part of the heart is malfunctioning, the size of these irregularities an indication to how bad the condition has become.



'freshly taken' ECG readings, so the cardiotographs were theoretical examples designed to test the program. All that was required was corrected information, just to make sure the program was behaving correctly. Tests with real – and potentially anomalous – readings would have confused the results.

BASIC groundwork

The CPC was the ideal tool on which to begin such a project. The 6128's memory proved powerful enough to rough out the program ideas in BASIC and could display the waveforms quickly without the need for special graphics programs – unlike certain PCs Alan could mention.

Its solid grounding in (the often derided) BASIC allowed the program, once it had taken shape, to be transferred to and worked on using the University system. The CPC is natu-

rally unable to match the processing power of many PCs or the University's mainframes, but it played an essential part in the development of the software. It formed an electronic notepad, with which the project was initiated, and was more than powerful enough to establish the framework around which the whole process was later to be built. And even in BASIC, Alan's CPC could handle any of the necessary processes, including all the maths needed to formulate the project.

The fact that the CPC could cope even with third year degree studies, proves what a valuable tool it is for anyone involved in education at any level. The time-saving elements of word processing and the amount of calculating power available make it the ideal choice, especially for students – it's even robust enough to survive the parties!

GLOSSARY OF TERMS

Wave: The graphic representation of the heartbeat. The greater the activity, the higher the peaks on the wave form.

Correlation: The process by which a waveform being analysed is compared to previous ones.

Convolution: A mathematical process by which two related sequences of numbers are brought together.

Periodic Signal: A signal that repeats on a regular basis – e.g. a heartbeat or sine wave.

Fundamental: The lowest frequency in a periodic signal.

Harmonics: A multiple of the fundamental, used in the processing of wave forms.

ECG: Electrocardiograph, the system used to monitor heartbeats. The reading is shown as a moving wave which peaks as the heart beats.

Qualitisation: The rounding up or down of a sampled value to one of a set of discrete values.

Signal Processing: The process by which sound/signals are converted into usable computer data.

Fourier Transforms: The method used to convert the raw data into a visually understandable waves.

TYPE-INS

Professor Waring has a few words to say about presentation this month...

SMARTEN YOUR-SELVES UP!

If the sprites in the latest game in the shops were minute stick men, the backgrounds were made up from letters and numbers and the packaging depicted yellow on blue text-based screens, would you buy it? Probably not – it just wouldn't grab your attention, after all.

That's right – presentation is an area that is very important to the overall appraisal of any program. Although looks don't necessarily affect the way that a program functions, or even add to its usefulness, a pretty program has increased immediate appeal, improved user-friendliness, and the punter is generally a lot happier with it.

When we review entries for the *Type-Ins* pages, our initial reactions – as anyone's would be – are based on the look and feel of a program. Boring screens, fiddly controls and general unfriendliness are black marks against what could be an otherwise excellent *Type-In*. It's important, therefore, that any budding contributors to these pages spend a little time considering how to make the best of their work before popping it in the post.

Forward planning

The best way to improve the presentation of your latest blockbuster is to sit down and plan the layout beforehand. The CPC manuals have text and window planners, so you may as well make use of them to design your screens. Your Amstrad is a

colour computer, so don't stick to boring mono displays – a dash of colour makes a world of difference. And user-defined graphics can be used to a good effect. Pretty characters look a lot more attractive than trying to build up pictures from the ASCII set. Lurking inside the plastic casing is a sophisticated three-channel sound chip. It's there to be used, so use it.

Don't overcomplicate a program too much, though. A *Noughts and Crosses* game that requires several 'user-friendly' menus and pretty screens that take minutes to draw up before allowing you to make a move is more off-putting than a crude display. Similarly, don't let improved presentation make a program too long, either. Anything over 6K is getting larger than we can put on one page, and it's borderline whether we'll accept it. We aim to get as many good quality programs as possible in the space available.

The message to all our readers is, keep 'em short and sweet.

Practice what we preach

And just to give a few specific pointers, this month we're going to take a close look at a *Type-In* from Andrew Smith and Mathew Robbins of Solihull, West Midlands. *Hanoi's Tower* is a perfect example of a good program that is marred by poor presentation. (Sorry lads!)

mechanics of the program were fine, processing all the necessary logical steps in order to execute the game correctly. However, the program's poor presentation lets it down badly.

We made a few changes to the listing. The basic structure is exactly the same; all we've altered are the parts that are concerned with the program's appearance.

Type in the listing as it stands, and run the program. After you've played with it for a few minutes, re-type the lines we've altered. This is what we did:

There wasn't any use of colour in the program. We added some different PENs and re-defined the ink colours.

• We made slight improvements to the front

end of the game. The original waited for capital 'C' to be pressed before starting. This was a nuisance. We eliminated it as there was no need.

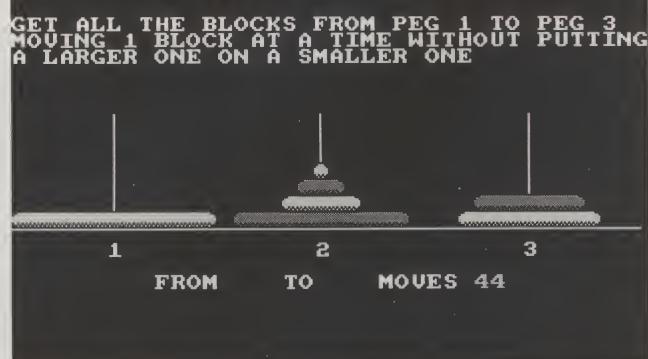
- The graphical display wasn't terribly inspiring. There was obvious room for improvement in the rings, which were made up from the letter 'Z'. We defined a few of our own characters using the SYMBOL command – see line 25.
- The program has no sound whatsoever. We included a couple of rudimentary spot effects.
- There was no real impetus to finishing the game. We added a counter so that there is some objective – i.e. beating the number of moves.

Anyway, here's the original listing, followed by our amendments:

```
(JpBt) 10·REM·THE·TOWER·OF·HANOI·BY·ANDREW·SMITH·AN
      D·MATTHEW·ROBBINS
(1oBr) 20·DIM·z$(8),a$(8),b$(8),c$(8),a(8),b(8),c(8)
      )
(KnBv) 30·CLS·PRINT".....HANOI'S TOWER.....":PRINT
(EsEq) 40·PRINT"GET·ALL·THE·BLOCKS·FROM·PEG·1·TO·PE
      G·3·MOVING·1·BLOCK·AT·A·TIME·WITHOUT·
      PUTTING·A·LARGER·ONE·ON·A·SMALLER·ONE":PRINT
      PRINT"·C·TO·CONTINUE"
(PxBn) 50·IF·INKEY$="C"THEN·GOTO·60·ELSE·GOTO·50
(KsAg) 60·PLOT·1,140:DRAW·630,140
(AxBi) 70·FOR·z=1·TO·8:READ·z$(z):NEXT·z
(PpBo) 80·LET·g=1:LET·h=8:LET·r=8:LET·j=1:LET·k=8:L
      ET·s=8
(FsCk) 90·FOR·z=1·TO·7:LET·a$(z)=z$(z+1):LET·b$(z)=
      z$(1):LET·c$(z)=z$(1):NEXT·z
(LoBt) 100·FOR·z=1·TO·7:LET·a(z)=z:LET·b(z)=0:LET·c
      (z)=0:NEXT·z
(DtBn) 110·LET·a(8)=8:LET·b(8)=8:LET·c(8)=8:GOTO·24
```

0

HANOI'S TOWER

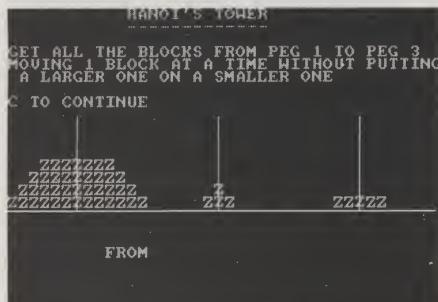


• ...and the improved version, courtesy of the Amstrad Action technical services dept.

```
(OxAv) 120·LOCATE·10,20:PRINT"FROM"
(HqBs) 130·e$=INKEY$:IF·e$<"4"AND·e$>"0"THEN·140·EL
      SE·130
(DtAv) 140·LOCATE·10,20:PRINT"TO···"
(ElBn) 150·f$=INKEY$:IF·f$<"4"AND·f$>"0"THEN·160·EL
```

Hanoi's Tower

The program is a version of the game *Hanoi's Tower* – a simple mathematical puzzle that consists of three pegs and seven differently sized disks. The aim is to move all seven disks from peg one to peg three, without putting a larger disk on top of a smaller one. The



• The original *Hanoi's Tower* from Messrs Smith and Robbins...

```

SE·150
{HiAu} 160·LOCATE·10, 20:PRINT"...."
{KlEi} 170·IF·e$="1"AND·f$="2"AND·h>g·THEN·LET·b$(k
-1)=a$(j):LET·a$(j)=z$(1):LET·k=k-
1:LET·j=j+1:LET·h=g:LET·b(k)=g:LET·g=a
(j):GOTO·240
{FqEm} 180·IF·e$="1"AND·f$="3"AND·r>g·THEN·LET·c$(s
-1)=a$(j):LET·a$(j)=z$(1):LET·s=s-
1:LET·j=j+1:LET·r=g:LET·c(s)=g:LET·g=a
(j):GOTO·240
{MuDv} 190·IF·e$="2"AND·f$="1"AND·g>h·THEN·LET·a$(j
-1)=b$(k):LET·b$(k)=z$(1):LET·j=j-
1:LET·k=k+1:LET·g=h:LET·a(j)=h:LET·h=b
(k):GOTO·240
{BlEj} 200·IF·e$="2"AND·f$="3"AND·r>h·THEN·LET·c$(s
-1)=b$(k):LET·b$(k)=z$(1):LET·s=s-
1:LET·k=k+1:LET·r=h:LET·c(s)=h:LET·h=b
(k):GOTO·240
{KvDx} 210·IF·e$="3"AND·f$="1"AND·g>r·THEN·LET·a$(j
-1)=c$(s):LET·c$(s)=z$(1):LET·j=j-
1:LET·s=s+1:LET·r=g:LET·a(j)=r:LET·r=c
(s):GOTO·240
{NiEi} 220·IF·e$="3"AND·f$="2"AND·h>r·THEN·LET·b$(k
-1)=c$(s):LET·c$(s)=z$(1):LET·k=k-
1:LET·s=s+1:LET·h=r:LET·b(k)=r:LET·r=c
(s):GOTO·240
{EwAn} 230·GOTO·120
{BmFw} 240·FOR·z=10·TO·17:LOCATE·1, z:PRINT·a$(z-
9):LOCATE·14, z:PRINT·b$(z-
9):LOCATE·27, z:PRINT·c$(z-
9):NEXT·z:PLOT·102, 143:DRAW·102, 260:
PLOT·310, 143:DRAW·310, 260:PLOT·518,
143:DRAW·518, 260
{BkCo} 250·IF·c(1)=1·THEN·LOCATE·15, 25:PRINT" WELL ·D
ONE !!!":GOTO·250·ELSE·GOTO·120
{BuCv} 260·DATA·".....", ".....Z.....", "...
.....ZZZ.....", "...ZZZZZ.....", ...
ZZZZZZZ.....", "...ZZZZZZZZZ.....", ".....
ZZZZZZZ.....", "ZZZZZZZZZZZZZ".....

```

THE CHANGES...

```

{FsBn} 15·DEF·FNcol(x, x$)=-1*(x$<>z$(1))*( (x/2-
INT(x/2))*2+1)+1
{FkGo} 25·SYMBOL·AFTER·91:SYMBOL·91, 0, 31, 127, 255, 2

```

COVER-UP

A version of *Type-Writer* was included on the Christmas cover cassette. Unfortunately, an error crept in, and the program won't run successfully on 464. If you have been experiencing problems with *Type-Writer* on the 464, then you'll be glad to hear that the remedy is fairly simple. Change the references to c\$ in line 40 and 110 to read h\$, and all will be well again.

GOING DOTTY

Type-Writer is so accurate that it can even distinguish the number of spaces in each line. This means that any trailing spaces at the end of a line will be detected by *Type-Writer* and produce a different code than a line without the extra spaces. Although this doesn't affect whether a program works or not, getting the right number of spaces is essential if the right checksum code is to be produced. For this reason we have replaced the spaces with dots to make the listings even more foolproof.

```

55, 255, 106, 21:SYMBOL·92, 0, 255, 255, 255,
255, 255, 170, 85:SYMBOL·93, 0, 240, 252, 254,
, 254, 254, 172, 80:SYMBOL·94, 0, 56, 124, 254,
254, 254, 124-40, 56-16:SYMBOL·95, 16, 16,
16, 16, 16, 16, 16
{LjDt} 30·MODE·1:BORDER·0:INK·0, 0:INK·1, 26:INK·2, 6:
INK·3, 22:PRINT·TAB(12); "HANOI'S TOWER"
:PRINT·TAB(12); "-----":PRINT
{GkDr} 40·PRINT"GET·ALL·THE·BLOCKS·FROM·PEG·1·TO·PE
G·3·MOVING·1·BLOCK·AT·A·TIME·WITHOUT·
PUTTING·A·LARGER·ONE·ON·A·SMALLER·ONE"
{CkBn} 50·LOCATE·7, 18:PRINT"1"TAB(20)"2"TAB(33)"3"
{CpAl} 85·mv=0
{FqBr} 120·LOCATE·10, 20:Pen·1:PRINT"FROM·...·TO···M
OVES"
{KnBp} 140·LOCATE·15, 20:Pen·2:PRINT·E$:SOUND·1, 200,
10, 10
{HuBq} 160·LOCATE·21, 20:Pen·2:PRINT·F$:SOUND·2, 1000
, 10, 10
{IoFj} 240·FOR·z=10·TO·17:y=z-
9:LOCATE·1, z:Pen·FNcol(a(y), a$(y)):

```

Spelling test

Warning: 6128 only!

Continuing the Educational theme in AA this month, we have a spelling test program from Steve Oldfield of Sheffield. Four ways of spelling a word are printed. You must select the correct one and type it in. There are ten words at present, but more can be added from line 370 onwards.

TYPE-WRITER

Don't type in that strange four letter code at the beginning of each line in *Type-Ins!* They are special checksum codes designed to make your life easier. All you need is this short *Type-Writer* listing, which produces those magical codes for you.

The program works by producing a code, based on all the characters in a line of BASIC. This code is printed every time the computer encounters a 'Return'. After you have RUN *Type-Writer* the computer will produce these checksums indefinitely. *Type-Writer* doesn't need to be retained in memory. In fact, it is always wise to get rid of it with 'NEW' before you start to enter the listing – you don't want it to become part of the program you're typing in! Compare the codes with those printed in the magazine (yours will appear at the end of each line, but we put them at the start for clarity).

If they are the same then all is well, and you'll be able to sleep at nights. If they're different, then what you've typed is not the same as we've printed, and your typing is at fault.

When you get these conflicting checksums, don't panic! EDIT the line and check it for differences. Remember that *Type-Writer* is very sensitive and can detect swapped characters and embedded spaces in lines. Also take note of similar-looking characters. The letter 'I' can look deceptively like the number '1' in listings. When you find your typo then amend the line to read like the one printed. *Type-Writer* will now give a correct report.

Type in the following listing and save it. If you get a data error when you run the program then check out lines 200-310. Once everything is hunky-dory and it seems to run OK then you can put it to its first real test. List the program. After every line of the listing a checksum should appear, and it should be identical to those that appear in these pages.

```

{LxAn} 10·'Type-Writer'
{NkBj} 20·'Public·Domain, ·by·Pat·McDonald
{BqAw} 30·'Amstrad·Action·June·1989
{HiBp} 40·flag=0:PRINT"INPUT"Am·I·a·464·(Daft·
question!);h$·
{IsBj} 50·a=HINEM-93:MEMORY·a-1:RESTORE·200
{PjAr} 60·FOR·b=a·TO·a+5D
{ArAv} 70·READ·c$:d=VAL("e"+c$)
{AsAr} 80·POKE·b, d:e=e+d
{IgAl} 90·NEXT·b
{JmBu} 100·IF·e<>10566·THEN·PRINT"Error·in·data.
·Please·Check.":END
{KuBs} 110·IF·LEFT$(h$, 1)="y"OR·LEFT$(h$, 1)="Y"THEN
·POKE·a+8, 6A
{AkAo} 120·z=a+34:e=0
{AlAs} 130·f=ABS(INT(z/256))
{DwAq} 140·g=ABS((z/256)-f)*256
{NqAx} 150·POKE·a+40, g:POKE·a+41, f:POKE·a+45, g
{CtBm} 160·POKE·a+46, f:POKE·a+57, g:POKE·a+58, f
{NkBi} 170·POKE·a+65, g:POKE·a+66, f:POKE·a+77, g
{LxAx} 180·POKE·a+78, f:POKE·a+85, g:POKE·a+86, f
{FiAu} 190·POKE·a+90, g:POKE·a+91, f
{JmAv} 200·DATA·e5, c5, f5, fe, 0d, 20, 18, 21
{NpBi} 210·DATA·8a, ac, 01, 00, 06, 51, 59, 7e
{ClAw} 220·DATA·fe, 00, 28, 11, 47, 81, 10, fd
{ErAv} 230·DATA·4f, eb, 09, eb, 23, 18, 20, f1
{FrAv} 240·DATA·c1, e1, cf, fe, 93, 3e, 20, cd
{GvAx} 250·DATA·22, 90, 3e, 7b, cd, 22, 90, 7b
{KvAt} 260·DATA·07, 07, 07, e6, 0f, c6, 41
{CxAv} 270·DATA·cd, 22, 90, 7b, e6, 0f, c6, 69
{ExAv} 280·DATA·cd, 22, 90, 7a, 07, 07, 07, 07
{KvAu} 290·DATA·e6, 0f, c6, 41, cd, 22, 90, 7a
{IpAv} 300·DATA·e6, 0f, c6, 69, cd, 22, 90, 3e
{JrBj} 310·DATA·7d, cd, 22, 90, 18, c1, 4d, 61
{NuAl} 320·g=q-34
{GkBn} 330·IF·flag=0·THEN·flag=1·ELSE·GOTO·370
{DvBo} 340·POKE·a+35, PEEK(6BB5B):POKE·a+36, PEEK(6BB
5C)
{CsBo} 350·POKE·6BB5A, 6C3:POKE·6BB5B, g:POKE·
6BB5C, f
{FwAm} 360·GOTO·50
{DpBp} 370·POKE·a+35, PEEK(6BD2C):POKE·a+36, PEEK·
(6BD2D)
{IgBn} 380·POKE·6BD2B, 6C3:POKE·6BD2C, g:POKE·
6BD2D, f

```

```

{GnBq} 10·REM·SPELLING·TESTER·(c)·STEVE·OLDFIELD·JANUARY·1990
{FlAv} 15·REM·SET·UP·WINDOWS·AND·INKS
{IkBk} 20·MODE·1·BORDER·1·INK·1,26·INK·3,6
{GnDm} 30·WINDOW#1,1,39,1,4·WINDOW#2,1,39,5,16.
      WINDOW#3,33,36,22,23·WINDOW#4,31,39,17,
      25·WINDOW#5,3,20,40,30
{MuBv} 40·PAPER#1,3·CLS#1·PEN·1·PRINT#1,SPACE$(90);
      "SPELLING·TESTER"
{PtFv} 50·PRINT#2,SPACE$(40); "YOU·WILL·BE·SHOWN·4·
      DIFFERENT·WAYS·OF·SPELLING·A·PARTICULAR·
      WORD·YOU·MUST·TRY·TO·FIND·THE·CORRECT·
      ONE";PRINT#5,"<·PRESS·A·KEY·>":CALL·
      &BB18:CLS#2:CLS#5
{FnAm} 60·GOSUB·730
{JrAt} 70·REM·SET·UP·VARIABLES
{IsAw} 80·LET·x=10:r=0:w=0:FOR·q=1·TO·x
{PqBk} 90·READ·a$:LOCATE·2,9·PRINT·a$:READ·b$
{CuBx} 100·LOCATE·6,12·INPUT"YOUR·SPELLING·";
      ansWS:Z$=UPPER$(ansWS)
{JrAt} 105·REM·RIGHT·ANSWER
{ObBj} 110·IF·b$=z$THEN·LET·r=r+1·ELSE·140
{FrBi} 120·SOUND·1,50,20,12·GOSUB·810
{ElD1} 130·LOCATE·8,16·PRINT"YOU·ARE·RIGHT":PRINT#5
      , "<·PRESS·A·KEY·>":CALL·&BB18:CLS#2:
      CLS#3:CLS#5:GOTO·170
{NuAo} 140·REM·WRONG·ANSWER
{OpBs} 150·IF·b$<>z$THEN·LET·w=w+1·SOUND·1,2500,75,
      15,1·GOSUB·830
{BpDq} 160·LOCATE·2,15·PRINT"WRONG·THE·CORRECT·
      SPELLING·IS·";b$:PRINT#5,"<·PRESS·A·
      KEY·>":CALL·&BB18:CLS#2:CLS#3:CLS#5
{JvAl} 170·NEXT·q
{OuBo} 180·LOCATE·6,10·PRINT"YOU·SCORED·";r;"OUT·OF·
      10"
{IrBk} 190·IF·r=x·THEN·GOSUB·820:GOSUB·870
{FnBp} 200·IF·r>w·AND·r<x·THEN·GOSUB·810:GOSUB·860
{AjBl} 210·IF·r=w·THEN·GOSUB·810:GOSUB·860
{GnBm} 220·IF·r<w·THEN·GOSUB·830:GOSUB·850
{HqBp} 230·PRINT#5,"<·PRESS·A·KEY·>":CALL·&BB18:CLS
      #2
{JsAl} 240·GOTO·680
{EuAm} 250·REM·DATA
{JxBt} 260·DATA·"TEACHER·TEACHER·TEACHER·
      TEACHER", "TEACHER"
{NrBv} 270·DATA·"INPRUVE·IMPROOVE·IMPROVE·
      IMPROOV", "IMPROVE"
{JtBo} 280·DATA·"FREND·FRIEND·FREIND·FRENND",
      "FRIEND"
{GnBp} 290·DATA·"SCHOOL·SCHOOL·SKOOL·SCHOOLL", "
      SCHOOL"
{MlBs} 300·DATA·"CASSETTE·CASETTE·CASSETTE·
      CASETTE", "CASSETTE"
{LnBv} 310·DATA·"DOLFIN·DOLPHIN·DOLPHINN·
      DOLPHIN", "DOLPHIN"
{GuBr} 320·DATA·"ENGINE·ENJINE·ENGINNE·ENJINNE",
      "ENGINE"
{IvBs} 330·DATA·"COMPUTOR·COMPEWTER·COMPUTER·
      COMPUTER", "COMPUTER"
{PvBt} 340·DATA·"TOYLET·TOILLET·TOILLETT·
      TOILET", "TOILET"
{GqBs} 350·DATA·"SPIDER·SPYDER·SPIDDER·
      SPYDERR", "SPIDER"
{LqBs} 360·DATA·"STOMACK·STUMACH·STOMACH·
      STUMACK", "STOMACH"
{DlAw} 370·REM·ADD·MORE·DATA·AS·NEEDED
{KqBj} 380·REM·LEAVE·SPACE·FOR·EXTRA·DATA·LINES
{BoBs} 680·CLS#5·PRINT#2·LOCATE·4,16·INPUT"PLAY·
      AGAIN·(Y·OR·N)·",g$
{JxBp} 690·IF·g$="Y"OR·g$="y"THEN·CLS#2:GOTO·80·
      ELSE·700
{LpBr} 700·IF·g$="n"OR·g$="N"THEN·CLS#2:GOTO·710·

```

```

      ELSE·680
{BnBx} 710·LOCATE·15,15·PRINT"GOODBYE":t=TIME·WHILE
      ·TIME+t+800>WEND·CALL·0
{MoAq} 720·REM·SUBROUTINES
{JkAp} 730·REM·face·set·up
{LnDv} 740·GRAPHICS·PEN·2·INK·2,25·ORIGIN·550,75·
      DEG·MOVE·0,60:FOR·d=0·TO·360·STEP·20·
      DRAW·60*SIN(d),60*COS(d):NEXT·MOVE·20,
      20·FILL·2
{PtAp} 750·REM·left·eye
{IoCt} 760·GRAPHICS·PEN·4·INK·4,0:FOR·a=1·TO·360·
      STEP·12:DEG·ORIGIN·525,95·PLOT·
      10*COS(a),10*SIN(a):NEXT
{MkDx} 765·FOR·a=1·TO·360·STEP·12:DEG·ORIGIN·527,
      97·DRAW·5*COS(a),5*SIN(a):NEXT·FOR·
      a=1·TO·150·STEP·12:DEG·ORIGIN·530,105·
      PLOT·10*COS(a),10*SIN(a):NEXT
{HtAo} 770·REM·right·eye
{AxCj} 780·FOR·a=1·TO·360·STEP·12:DEG·ORIGIN·575,
      95·PLOT·10*COS(a),10*SIN(a):NEXT
{CqEl} 785·FOR·a=1·TO·360·STEP·12:DEG·ORIGIN·577,
      97·DRAW·5*COS(a),5*SIN(a):NEXT·FOR·a=
      1·TO·150·STEP·12:DEG·ORIGIN·580,105·
      PLOT·10*COS(a),10*SIN(a):NEXT
{CqAn} 790·REM·nose·
{CnCu} 800·GRAPHICS·PEN·3·FOR·a=1·TO·360·STEP·12·
      DEG·ORIGIN·550,75·DRAW·15*COS(a),
      15*SIN(a):NEXT·RETURN
{JkAq} 810·REM·happy·mouth
{GuDo} 820·PAPER#3,2:CLS#3:GRAPHICS·PEN·4:FOR·a=180
      ·TO·360·STEP·10:DEG·ORIGIN·548,57·
      PLOT·25*COS(a),25*SIN(a):NEXT·RETURN
{JnAp} 830·REM·SAD·MOUTH
{EqDo} 840·PAPER#3,2:CLS#3:GRAPHICS·PEN·4:FOR·
      a=1·TO·180·STEP·10:DEG·ORIGIN·548,35·
      PLOT·25*COS(a),25*SIN(a):NEXT·RETURN
{ArDj} 850·LOCATE·8,13·PRINT"OH·DEAR·YOU·WILL·HAVE·
      TO·TRY·HARDER":PRINT·SPACE$(45); "NEXT·
      TIME":GOSUB·5000:RETURN
{LjDi} 860·LOCATE·8,13·PRINT"YOU·DID·VERY·WELL·YOU·
      MIGHT·GET·THEM·ALL·RIGHT·NEXT·
      TIME":GOSUB·5000:RETURN
{EvEr} 870·GRAPHICS·PEN·4:FOR·a=180·TO·360·STEP·10·
      DEG·ORIGIN·548,57·PLOT·25*COS(a),25*SIN
      (a):NEXT·LOCATE·6,13·PRINT"YOU·GOT·THEM·
      ALL·RIGHT·WELL·DONE":RETURN
{DoEs} 880·GRAPHICS·PEN·4:FOR·a=180·TO·360·STEP·10·
      DEG·ORIGIN·548,57·PLOT·25*COS(a),25*SIN
      (a):NEXT·LOCATE·6,13·PRINT"YOU·GOT·THEM·
      ALL·RIGHT·WELL·DONE":RETURN
{HmAr} 5000·REM*****.Tune.*****
{JjBi} 5010·IF·g<2·THEN·RESTORE·5100
{EoBl} 5020·IF·g=2·OR·g=3·THEN·RESTORE·5150
{AwB1} 5030·IF·g=4·OR·g=5·THEN·RESTORE·5200
{ApBk} 5040·IF·g=6·THEN·RESTORE·5250
{EoAx} 5050·IF·g=7·THEN·RESTORE·5300
{LxBi} 5060·IF·g=8·THEN·RESTORE·5350
{EvAq} 5070·FOR·x=1·TO·48
{FsCp} 5080·READ·a,b,c: SOUND·4,a,18,10,9,1: SOUND·9,
      b,20,12,4,0: SOUND·5,c,25,12,5,7:NEXT
{CqAk} 5090·:
{JuAx} 5100·DATA·379,0,0,·338,0,0,·301,0,0
{LsAu} 5110·DATA·284,113,95,·284,113,95
{FvAx} 5120·DATA·379,113,95,·379,113,95
{AxAp} 5130·DATA·284,113,95
{EjAk} 5140·:
{AoAx} 5150·DATA·284,0,0,·253,0,0,·225,0,0
{ItAw} 5160·DATA·213,106,84,·213,106,84
{AuAw} 5170·DATA·284,106,84,·284,106,84
{LvAq} 5180·DATA·213,106,84
{ImAj} 5190·:
{IvBi} 5200·DATA·213,0,0,·190,0,0,·169,0,0

```

```

{EoBi} 5210·DATA·159,106,80,·159,106,80
{PrAx} 5220·DATA·213,106,80,·213,106,80
{GlAr} 5230·DATA·159,106,80
{OxAk} 5240·:
{LxBi} 5250·DATA·159,0,0,·169,0,0,·190,0,0
{OnAx} 5260·DATA·213,106,84,·213,106,84
{LuAv} 5270·DATA·284,106,84,·284,106,84
{MlAr} 5280·DATA·213,106,84
{OiAj} 5290·:
{GkAx} 5300·DATA·213,0,0,·225,0,0,·253,0,0
{BkAv} 5310·DATA·284,113,95,·284,113,95
{GjAw} 5320·DATA·379,113,95,·379,113,95
{LxAq} 5330·DATA·284,113,95
{JvAk} 5340·:
{MnAx} 5350·DATA·284,0,0,·301,0,0,·338,0,0
{IjBi} 5360·DATA·379,150,127,·379,150,127
{MoBj} 5370·DATA·253,150,127,·253,150,127
{MiAs} 5380·DATA·379,150,127
{MsAn} 5390·RETURN

```

Sprite Driver

Sean McManus of Stevenage, Herts., has come up with a program in response to recent pleas within the pages of AA. His *Sprite Driver* program is just the thing to liven up your BASIC games.

The sprites are full colour XORed sprites (print the same again to delete the original), and are limited to using text co-ordinates. The sprites are referred to as numbers from zero to 126. They must first be created. Use any art package, programming language or sprite definer as long as they can be put up onto the screen from BASIC.

The GRAB command can be used to lift the graphic from the screen and store it for use with the sprites. The information it needs is X co-ordinate, Y co-ordinate, Width in bytes, Height in pixels and address in memory to store it.

|GRAB,x,y,w,h,a

The sprites are defined with SDEF. It links each Sprite number with the Address it's been grabbed to.

|SDEF,s,a

To print a sprite onto the screen the SPRITE command is used. Just tell it the Sprite number and the X and Y co-ordinates to position it to.

|SPRITE,s,x,y

X and Y co-ordinates start at the top left of the screen (0,0) and extend to the bottom right (79,24).

The program launches straight into a demonstration. You can save the RSXs as a block of code with SAVE "code",b,40000,272. Reload it with:

MEMORY 39999:LOAD"code":call 40000.

{FjAw} 10:ESD-EASI-SPRITE-DRIVER
 {KpAs} 20:(C)1989 SEAN MC MANUS
 {PlAu} 30:WRITTEN FOR AMSTRAD ACTION
 {MpAp} 40:PUBLIC DOMAIN
 {HuAi} 50:
 {JiBj} 60:MODE 2: P 1: PAPER 0: PRINT "Loading machine code into 40000."
 {MwAv} 70:INK 0,0:INK 1,26:BORDER 0
 {KjBj} 80:PRINT:PRINT "Easi-Sprite-Driver"
 {OsAv} 90:PRINT:PRINT "New commands:"
 {DwCj} 100:PRINT "|SDEF, sprite·number, memory·address
 -- Define a·sprite·address
 {ImBp} 110:PRINT "|SPRITE, sprite, x, y -
 ·Print·sprite
 {CwAm} 120:PRINT
 {PwAo} 130:PRINT "Notes:
 {KvBx} 140:PRINT "Co-ordinates used are text·
 co-ordinates minus one."
 {DxAx} 150:PRINT "I.e. (0-19,0-24) in mode 0
 {GoAx} 160:PRINT " (0-39,0-24) in mode 1
 {MbBj} 170:PRINT " (0-79,0-24) in mode 2"
 {JsAl} 180:PRINT
 {HtBj} 190:PRINT "Do not exceed 126 sprites."
 {IwCi} 200:PRINT "Code is not very error-trapped to
 ·keep code length to a"
 {EjBx} 210:PRINT "minimum. Use caution. Do not
 print undefined sprites, or"
 {AjBm} 220:PRINT "sprites with a dimension of zero."
 "
 {JmBj} 230:DATA 01,4F,9C,21,6A,9C,CD,D1,3B1
 {JkBm} 240:DATA BC,21,E6,9C,C3,D2,9C,5B,4EB
 {KrAv} 250:DATA 9C,C3,70,9C,C3,B2,9C,C3,53F
 {MnBk} 260:DATA 17,9D,C9,53,50,52,49,54,30F
 {MpBj} 270:DATA C5,53,44,45,C6,47,52,41,341
 {FjBj} 280:DATA C2,00,FC,A6,4F,9C,00,00,34F
 {JqAx} 290:DATA FE,03,C2,CC,9C,DD,6E,00,476
 {CwBj} 300:DATA DD,66,02,DD,7E,04,F5,CD,466
 {FqBj} 310:DATA 1A,BC,F1,E5,6F,26,00,29,36A
 {BwAx} 320:DATA 01,4F,9D,09,4E,23,46,50,1FD
 {KsBj} 330:DATA 59,69,60,6E,23,13,13,46,1FF
 {IrBk} 340:DATA E1,C5,E5,1A,AE,77,23,13,400
 {MgBj} 350:DATA 10,F9,E1,01,00,08,09,30,22C
 {HjBj} 360:DATA 04,01,50,C0,09,C1,0D,20,20C
 {DoAx} 370:DATA E8,C9,FE,02,C2,CC,9C,DD,5B8
 {AqBk} 380:DATA 7E,02,87,21,4F,9D,4E,06,269
 {GsBj} 390:DATA 00,09,DD,00,DD,56,01,278
 {EoBk} 400:DATA 73,23,72,C9,21,9D,9C,C3,42E
 {EsAx} 410:DATA D2,9C,7E,FE,00,C8,CD,5A,4D9
 {AoBj} 420:DATA BB,23,C3,D2,9C,18,45,52,3BE
 {BoAv} 430:DATA 52,4F,52,18,07,00,45,41,198
 {AwBj} 440:DATA 53,59,20,53,50,52,49,54,25E
 {FuBn} 450:DATA 45,20,44,52,49,56,45,52,231
 {NtBj} 460:DATA 2E,0A,0A,0D,28,43,29,20,103
 {ErBj} 470:DATA 31,39,38,39,20,53,45,41,1D4
 {MtBk} 480:DATA 4E,20,4D,43,4D,41,4E,55,22F
 {KvBk} 490:DATA 53,2E,07,0A,0A,0D,00,FE,1A7
 {KjBj} 500:DATA 05,C2,CC,9C,DD,6E,06,45D
 {JqBk} 510:DATA 66,08,CD,1A,BC,DD,56,01,345
 {KjAx} 520:DATA DD,5E,00,DD,7E,02,12,4F,2F9
 {BoBk} 530:DATA 13,DD,7E,04,12,13,47,C5,2A3
 {DoBj} 540:DATA E5,7E,12,23,13,10,FA,E1,396
 {AxBj} 550:DATA 01,00,08,09,30,04,01,50,097
 {AsBj} 560:DATA C0,09,C1,0D,20,E9,C9,00,369
 {EjAx} 570:a=&9C40:L=230:FOR·z=1·TO·34
 {JiBs} 580:cs=0:FOR·x=1·TO·8:READ·v\$:v=VAL("·"+v\$):
 POKE a,v
 {OuBj} 590:cs=cs+v:a=a+1:NEXT:READ·c\$:c=VAL("·"+c\$)
 {GlBr} 600:IF·c>c\$·THEN:PRINT"DATA·ERROR·IN·LINE·"
 ,L:END

{GiAq} 610:L=L+10:NEXT
 {BpAp} 620:CALL 40000
 {HkAj} 630:
 {LwAp} 640:Demonstration
 {IiAj} 650:
 {AlBj} 660:DATA 10,08,00,54,FC,FC,FC,FC,45C
 {PpAw} 670:DATA 40,00,00,A8,00,00,00,00,0E8
 {HuBi} 680:DATA E8,00,54,10,30,30,30,30,20C
 {NiAw} 690:DATA C0,80,A8,74,54,54,54,54,3AC
 {LrBj} 700:DATA 60,00,B8,A8,74,10,54,20,2B8
 {MkBj} 710:DATA E8,A8,FC,20,FC,00,54,A8,4A4
 {KrBj} 720:DATA 54,A8,FC,20,30,00,10,20,278
 {IjAx} 730:DATA 54,A8,FC,20,00,00,00,00,218
 {OtAx} 740:DATA 54,A8,FC,00,00,00,00,00,1F8
 {KlBi} 750:DATA 54,A8,FC,00,00,00,00,00,1F8
 {CrBj} 760:DATA 54,A8,FC,20,20,20,20,20,298
 {JzAx} 770:DATA 74,A8,A8,B8,A8,52C
 {OuAx} 780:DATA A8,A8,B8,88,54,A8,FC,10,4C8
 {EqAx} 790:DATA A8,A8,54,74,74,B8,FC,74,4B4
 {AxBj} 800:DATA 74,00,00,B8,10,10,20,00,16C
 {FuBj} 810:DATA A8,00,00,54,FC,FC,FC,4EC
 {EpAv} 820:a=&8000:L=660:FOR·G=1·TO·16
 {CwBs} 830:cs=0:FOR·x=1·TO·8:READ·v\$:v=VAL("·"+v\$):
 POKE a,v
 {BvBn} 840:cs=cs+v:a=a+1:NEXT:READ·c\$:c=VAL("·"+c\$)
 {FkBj} 850:IF·c>c\$·THEN:PRINT"DATA·ERROR·IN·LINE·"
 ,L:END
 {LjAp} 860:L=L+10:NEXT
 {HwAo} 870:INK 7,25:INK 4,13
 {IjAr} 880:MODE 0:|SDEF,1,&8000
 {KrAj} 890:PIN 1:PAPER 0
 {JxBm} 900:LOCATE 3,1:PRINT"ESD·Demonstration"
 {MxAu} 910:LOCATE 7,2:PRINT"(Batman)"
 {NrAr} 920:FOR·n=23·TO·5·STEP·-2
 {JlBj} 930:FOR·x=0·TO·19·STEP·2:|SPRITE,1,x,0
 {BxAo} 940:FOR·y=1·TO·n
 {AkBj} 950:|SPRITE,1,x,y:|SPRITE,1,x,y-1
 {NvAm} 960:NEXT·y,x,n
 {EmAj} 970:WHILE·INKEY\$=""
 {PsBr} 980:980:|SPRITE,1,(INT(RND*10)*2),(INT(RND*10)
 *2)+3
 {HuAk} 990:WEND
 {CmAo} 1000:MODE 2:LIST

MEMDUMP

Mike Wong from Sale in Cheshire has been up to his old tricks again. His latest listing, *Memdump* can give you a graphical display of the computer's memory at the touch of a button (well, eight buttons, actually).

The program asks for an address to locate the routine. It defaults to &4000, but other good places are &A500 (below disk drive space) or &AF00 (where it will survive a system reset – just type CALL &AF03 to restore it).

Execute the program with the RSX | MEMDUMP. Each byte in memory is represented by a pixel. Programs tend to be shown as solid bands, whilst data has a more 'patchy' look.

{CpBj} 10:MODE 2:INPUT"Locate·at·at·(&4000+)";a
 {EtAu} 20:IF·a<0·THEN·a=&5536+a
 {NrAr} 30:IF·a=0·THEN·a=&54000
 {PkAs} 40:IF·a<&4000·THEN·10
 {IpAx} 50:IF·a>HIMEM·THEN·MEMORY·a-1
 {FsAt} 60:PRINT"Please·wait...":l=160
 {CwBo} 70:FOR·n=a·TO·a+152·STEP·20:FOR·p=0·TO·19
 {GvBj} 80:READ·q\$:q=VAL("·"+q\$):POKE·n+p,q:c=c+q
 {BsBo} 90:NEXT:READ·c\$:ch=VAL("·"+c\$):IF·c<>
 ch·THEN·150
 {JtBo}
 100·1=l+10:c=0:NEXT:FOR·n=1·TO·23:READ·p\$,q\$
 {JoBj}
 110·p=VAL("·"+p\$):q=VAL("·"+q\$):p=p+a:q=q+a
 {PuBp} 120:POKE·p,q-256*INT(q/256):POKE·p+1,
 INT(q/256)
 {InAn} 130:NEXT:CALL a+3
 {LsBo} 140:PRINT"Type·|MEMDUMP·or·CALL·&"
 HEX\$(a,4):END
 {IlAs} 150:PRINT"Error·in·line"1
 {GiCm} 160:DATA c3,1e,40,21,0c,40,01,10,40,c3,d1,

bc,00,00,00,16,40,c3,1e,566
 {OnCk} 170:DATA 40,c9,4d,45,4d,44,55,4d,d0,00,21,
 26,41,7e,fe,ff,28,06,cd,5a,7f6
 {LjCo} 180:DATA bb,23,18,f5,cd,eb,40,af,f5,cd,
 a6,40,f1,3c,fe,06,20,f6,cd,f9,c47
 {MsCn} 190:DATA 40,cd,f0,40,3e,06,f5,cd,ad,40,f1,
 3c,fe,0c,20,f6,cd,f9,40,cd,b50
 {IjBw} 200:DATA eb,40,af,67,6f,32,69,40,22,5e,
 40,18,42,21,00,00,7c,fe,c0,c8,7c8
 {IpCl} 210:DATA fe,60,20,0f,3e,00,fe,01,28,09,
 3c,32,69,40,cd,f0,40,18,28,7e,6cd
 {FwCl} 220:DATA 23,22,5e,40,21,00,00,11,00,00,a7,
 28,07,e5,d5,cd,ea,bb,d1,e1,7c9
 {CwCo} 230:DATA 1c,7b,fe,80,20,04,1e,00,23,22,22,
 7d,40,ed,53,80,40,18,be,21,673
 {MmCn} 240:DATA 00,00,5d,54,18,f0,f5,cd,b5,40,f1,
 18,le,f5,d6,06,cd,b5,40,18,942
 {PuCm} 250:DATA f5,47,21,00,00,11,40,00,a7,28,03,
 19,10,fd,1e,06,19,11,d3,ff,5c6
 {CwCk} 260:DATA c3,ea,bb,fe,09,28,03,f2,d6,40,c6,
 30,18,02,c6,37,cd,fc,bb,06,a39
 {HqBx} 270:DATA 03,c5,3e,30,cd,fc,bb,c1,10,f7,3e,
 2d,c3,fc,bb,11,84,00,18,03,917
 {BsCn} 280:DATA 11,88,01,21,06,00,c3,c9,bb,21,fc,
 ff,11,fe,ff,cd,ea,bb,21,00,9c5
 {FjCj} 290:DATA 00,11,84,00,cd,f9,bb,21,86,01,11,
 00,00,cd,f9,bb,21,00,00,11,682
 {BmCi} 300:DATA 7c,ff,cd,f9,bb,21,7a,fe,11,00,00,
 c3,f9,bb,04,02,1c,00,00,00,83f
 {BlCk} 310:DATA 1c,01,1a,1a,1d,00,00,4d,45,4d,44,
 55,4d,50,20,76,31,2e,37,0d,3bc
 {KxCi} 320:DATA 0a,28,63,29,20,31,39,38,39,0d,0a,
 4d,2e,20,57,6f,fe,67,ff,00,505
 {AjCk} 330:DATA 01,1e,04,0c,07,10,16,13,1e,2d,
 eb,32,a6,3b,f9,3e,f0,44,ad
 {MuCj} 340:DATA 4d,f9,50,eb,56,69,59,5e,70,69,73,
 f0,7a,5e,97,7d,9b,80,48,b5
 {KrAv} 350:DATA b1,b5,d0,d6,1f,126

TURBOSOFT

SPECIALS CASSETTE

	RRP	SRP
Afterburner	9.99	3.99
Big Sleaze	9.99	1.99
Blasteroids	9.99	3.99
Bob's Full House	9.99	4.99
Brian Clough's Football Fortunes	14.95	4.99
Cholo	14.99	2.99
Elite	14.95	4.99
Fernandez Must Die	9.95	2.99
Fighter Pilot	9.99	3.99
Firezone	9.95	3.99
F-15 Strike Eagle	9.95	5.99
Football Manager II	9.99	4.99
Galactic Games	9.99	3.99
Get Dexter	9.99	1.99
Hunt for Red October	14.95	6.99
Mask II	9.99	2.99
Murder on the Atlantic	9.99	1.99
Mystery on the Nile	9.99	1.99
Nebulus	9.99	3.99
Sorceror Lord	12.95	2.99
Stiffleg + Co	9.95	1.99
Pacific	9.99	2.99
Pacland	9.95	4.99
Pacmania	9.95	4.99
Real Ghostbusters	9.99	3.99
R-Type	9.99	3.99
Running Man	9.99	4.99
Silent Service	9.95	5.99
Strip Poker II +	9.95	3.99
Tai Pan	9.99	3.99
Time & Magik	14.99	4.99
Trivial Pursuits	14.99	6.99
Trivial Pursuits New Beginning	14.99	5.99
Warlock	9.99	1.99

Game Set & Match 2 Only £7.99 Disc £12.50

Matchday II, Ian Botham's Test Match, Basket Master, Super Hang On, Track 'n' Field, Superbowl, Winter Olympiad, Steve Davis Snooker, Nick Faldo's Open

6 Pack Vol 3 Disc only £9.99

Ghost Goblins, Paperboy, Living Daylights, Enduro Racer, Escape from Single's Castle, Dragons Lair

IN CROWD ONLY £10.99

Barbarian, Gryzor, Crazy Cars, Predator, Karnov, Combat School, Target Renegade, Platoon

TATIO COIN OP ONLY £8.99

Rastan, Flying Shark, Bubble Bobble, Arkanoid, Slapfight, Arkanoid II, Renegade, Legend of Kage

SUPREME CHALLENGE ONLY £4.99 DISC £10.99

Elite, Ace, Sentinel, Starglider, Tetris

SOCCER SPECTACULAR

Only £4.99 Disc £10.99 Football Manager, Peter Beardsley's Soccer, World Champions, Handball Maradonna, Soccer Supremo

THE BIZ ONLY £10.99

Operation Wolf, R-Type, Batman Caped Crusader, Double Dragon

30 RED HOT HITS

ONLY £6.99

Ghostbusters, FA Cup, Agent X 2, Kane, LA Swat, Ninja Master, Rasputin Ollie and Lissa, Ricochet, Zolyx, Way of Exp Fist, Dan Dare, Formula 1 Simulator, Brian Jack's Superstar Challenge, Tau Ceti, Park Patrol, Thrust, Harvey Headbanger, War Cars, Tarzan, Ninja Hamster, Enlightenment - Druid II, The Boggit, Mystery of the Nile, Mega Apocalypse, Endurance, Activator, Catch 23, Dark Sceptre

AMSTRAD TOP 30 HITS

	CASS	DISC		CASS	DISC	
Altered Beast	6.99	10.99		Moonwalker	6.99	10.99
Batman the Movie	6.99	10.99		Mr Heli	6.99	10.99
Cabal	6.99	10.99		Myth	6.99	10.99
Carrier Command (6128 only)	N/A	12.99		New Zealand Story	6.99	10.99
Chase HQ	6.99	10.99		Ninja Warriors	6.99	10.99
Continental Circus	6.99	10.99		Operation Thunderbolt	6.99	10.99
Crazy Cars II	5.99	9.99		Paul Gascoigne Soccer	5.99	9.99
Dynamite Dux	6.99	10.99		Power Drift	6.99	10.99
Footballer of the Year II	6.99	10.99		Purple Saturn Day	6.99	10.99
Forgotten Worlds	6.99	10.99		Rick Dangerous	6.99	10.99
Ghostsbusters II	7.99	10.99		Robocop	6.99	10.99
Ghouls 'n' Ghosts	6.99	10.99		Super Wonderboy	6.99	10.99
Hard Drivin	6.99	10.99		Turbo Outrun	6.99	10.99
Indy Jones & Last Crusade	6.99	10.99		Tusker	6.99	10.99
Kick Off	6.99	10.99		Untouchables	6.99	10.99

AMSTRAD CLASSICS

	CASS	DISC		CASS	DISC	
Ancient Battles	10.99	N/A		Action Service	6.99	10.99
Airborne Ranger	10.99	13.99		Adidas Golden Shoe	6.99	10.99
A.P.B.	6.99	10.99		After the War	6.99	10.99
Chuck Yeagers (AFT)	6.99	10.99		Beach Volley	6.99	10.99
Colossus Bridge	8.99	11.99		Beverly Hills Cop	6.99	10.99
Colossus Chess 4	7.99	11.99		Black Tiger	6.99	10.99
Crazy Cars	2.99	N/A		Bloodwyche	6.99	10.99
Cricket Master	6.99	10.99		Bomber	9.99	12.99
Deluxe Scrabble	N/A	11.99		Cyberball	6.99	9.99
Dragon Ninja	6.99	10.99		Double Dragon II	6.99	10.99
Dragon Spirit	6.99	10.99		Dr Dooms Revenge	5.99	9.99
Emlyn Hughes Int Soccer	6.99	10.99		Driving Force	6.99	10.99
Football Director	6.99	N/A		F-16 Combat Pilot	10.99	13.99
Football Director II	N/A	13.99		Galaxy Force	6.99	10.99
Football Manager II	4.99	9.99		Fiendish Freddys	6.99	10.99
Games Summer Edition	7.99	11.99		Fighting Soccer	6.99	10.99
Graham Gooch Cricket	1.99	N/A		Golden Axe	6.99	10.99
Gunship	10.99	13.99		Iron Lord	6.99	10.99
Heroes of the Lance	7.99	14.99		Knight Force	5.99	9.99
Kenny Dalglish Soccer	6.99	10.99		Onslaught	6.99	10.99
Laser Squad	6.99	10.99		P-47 Thunderbolt	6.99	10.99
Last Ninja II	8.99	10.99		Player Manager	6.99	10.99
Licence to Kill	6.99	10.99		Quaterback	6.99	10.99
Microprose Soccer	10.99	12.99		Rainbow Island	6.99	10.99
Monopoly	7.99	11.99		Saint & Greavie	5.50	9.99
On the Bench	2.99	N/A		Scare Ghost	10.99	13.99
Operation Wolf	6.99	10.99		Strider	6.99	10.99
Passing Shot	6.99	10.99		Stunt Car Racer	10.99	13.99
Picture	9.99	12.99		Super Wonderboy	6.99	10.99
Red Heat	6.99	10.99		Terry's Big Adventure	5.50	9.99
Renegade 3	6.99	10.99		The Champ	6.99	10.99
Run the Gauntlet	6.99	10.99		Tin Tin on the Moon	6.99	10.99
R-Type	6.99	10.99		Wild Streets	5.99	9.99
Shinobi	6.99	10.99		Xenophobe	6.99	10.99
Stormlord	6.99	10.99				
Tank Attack	9.99	12.99				
The National	6.99	N/A				
Times of Lore	6.99	10.99				
Toobin	6.99	10.99				
Tracksuit Manager	6.99	N/A				
Treble Champions	6.99	10.99				
Vigilante	6.99	10.99				
Vindicators	6.99	10.99				
Vulcan	6.99	N/A				
War in Middle Earth	6.99	10.99				
W E C LeMans	6.99	10.99				
3D Pool	6.99	10.99				

FORTHCOMING ATTRACTIONS

	CASS	DISC
Action Service	6.99	10.99
Adidas Golden Shoe	6.99	10.99
After the War	6.99	10.99
Beach Volley	6.99	10.99
Beverly Hills Cop	6.99	10.99
Black Tiger	6.99	10.99
Bloodwyche	6.99	10.99
Bomber	9.99	12.99
Cyberball	6.99	9.99
Double Dragon II	6.99	10.99
Dr Dooms Revenge	5.99	9.99
Driving Force	6.99	10.99
F-16 Combat Pilot	10.99	13.99
Galaxy Force	6.99	10.99
Fiendish Freddys	6.99	10.99
Fighting Soccer	6.99	10.99
Golden Axe	6.99	10.99
Iron Lord	6.99	10.99
Knight Force	5.99	9.99
Onslaught	6.99	10.99
P-47 Thunderbolt	6.99	10.99
Player Manager	6.99	10.99
Quaterback	6.99	10.99
Rainbow Island	6.99	10.99
Saint & Greavie	5.50	9.99
Scare Ghost	10.99	13.99
Strider	6.99	10.99
Stunt Car Racer	10.99	13.99
Super Wonderboy	6.99	10.99
Terry's Big Adventure	5.50	9.99
The Champ	6.99	10.99
Tin Tin on the Moon	6.99	10.99
Wild Streets	5.99	9.99
Xenophobe	6.99	10.99

EDUCATIONAL

	CASS	DISC
Answer Back Junior	7.50	10.99
Better Maths 12-16	8.99	13.99
Better Spelling 9-14	8.99	13.99
Fun School II Under 6	6.99	9.50
Fun School II 6-8	6.99	9.50
Fun School II 8+	6.99	9.50
French Mistress A+B	N/A	15.99
General Science	N/A	7.99
Magic Maths 4-8	8.99	13.99
Spelling	N/A	7.99
Three Bears	N/A	14.50
World Wise	7.99	10.99

LOOK!

For every £10 spent you can choose a free game from the list below

Mr Weems and the She Vampires, Mega Apocalypse,

Dandy, High Frontier, Hijack, Sailing, Ball Breaker,

Star Raiders II, Lee Enfield, Tournament of

Death, Fury, Prodigy, Vixen,

Mandragore, Rasputin, Explorer.

(CASS ONLY)

LOOK!

For every £10 spent you can choose a free game from the list below

Mr Weems and the She Vampires, Mega Apocalypse,

Dandy, High Frontier, Hijack, Sailing, Ball Breaker,

Star Raiders II, Lee Enfield, Tournament of

Death, Fury, Prodigy, Vixen,

Mandragore, Rasputin, Explorer.

(CASS ONLY)

MEGA OFFER

For every £10 spent you can choose a free game from the list below

Mr Weems and the She Vampires, Mega Apocalypse,

Dandy, High Frontier, Hijack, Sailing, Ball Breaker,

Star Raiders II, Lee Enfield, Tournament of

Death, Fury, Prodigy, Vixen,

Mandragore, Rasputin, Explorer.

(CASS ONLY)

WINNERS

ONLY £10.99

DISC £14.99

COIN OP HITS

ONLY £10.99

DISC £14.99

LEADERBOARD

PAR 3

Only £9.99 Disc

£13.99

LEADERBOARD

Leaderboard Tournament,

World Class

Leaderboard

COIN OP HITS

ONLY £10.99

DISC £14.99

LEADERBOARD

Outrun,

Thunderblade,

Road Blasters,

Spy Hunter,

Bionic

Commando

COIN OP HITS

ONLY £10.99

DISC £14.99

LEADERBOARD

Thunderblade,

Activator, The</h

CHEAT MODE

Ouch! Thirty-six of the best in Uncle Phil's whacking great Cheat Mode debut...

OK, so what's all this then? Big changes in the *Cheat Mode* section? Well, maybe. Trenton, being of a more delicate and literary bent, has chosen to devote his erudite bainage (whaaat?) to the reviews, leaving me to sort through the usual thunderously huge AA mailbag of hints, cheats, passwords etc...

So, after an age of wading waist-deep in letters, I think I know exactly what you want (even if it is unprintable). Stephen Troupe of Kings Lynn (great cheats Steph!) tells me the Sinclair mags have considerably more cheats than us, up to 8 pages of pokes every month. Well, that is entirely up to you... (I suspect people who buy Spectrums probably need a cheat to switch it on anyway!). Meanwhile, what I need, to fill these few humble leaves, are vast amounts of:

- Disk pokes
- Tape pokes
- Multiface pokes
- Maps
- Passwords
- Keypress cheats
- Playing tips
- Solutions

In fact, anything at all which will put a stop to this senseless pulling of hair and chewing of fingernails that gameplayers are heir to. *Cheat Mode* needs YOU (well, your cheats), and don't forget there are great riches in store for the best of the bunch. So, get writing/drawing/typing, and to speed things up, please send routines on tape or disc with a SAE if you want them back.

Meanwhile, if you fancy an old cheat reprinting from the *Classic Collection*, write it on a postcard (or the back of a fiver) – that'll make it easier to check popularity. I can't send them back individually, so please don't ask.

Just a couple of things before we get on with it (get on with it!). If you are into those sort of things, then you will have noticed that Ocean, Imagine and Activision have now joined the ranks, along with US Gold, in the "jolly difficult to poke protection" league. The truth is that pokes for their new system, although possible, would be just as awful to type in as the lock/key routines, and take about 3 times as long to run! Can you really be bothered? Let me know.

As luck (?) would have it, an ever-increasing number of programmers are introducing keypress cheats (really for use by their games testers) which are invaluable to the player. Isn't it about time more programmers/software houses started considering the people who buy their games, and allowed easy access to higher levels (even if they do hide them away)? Then, perhaps, their games could be enjoyed to the full.



I've come across a technique that really should have gone into the *Insider Dealing* pages. You phone up the chap who wrote the game and say "The game's great, but I can't get past the first level!". Naturally he panics (thinking he has made the game too hard), and offers up a routine to help you out. This is a tape poke for that heavily nepotised game, *Lost Caves*.

```
{ExAo} 1 'LOST CAVES
{FrAj} 2 '
{PuAq} 3 'Select level
{FrAj} 4 '
{NrAs} 10 DATA 21,fa,ac,36,c3,23
{HkAt} 20 DATA 36,0e,23,36,be,c3
{AsAr} 30 DATA 00,ac,c4,14,ac,3e
{MqAw} 40 DATA f7,32,e7,10,21,30
{KtAq} 50 DATA 00,36,3e,23,36,00
{KvAt} 60 DATA 23,36,c9,fb,c9,21
{MsAu} 70 DATA 7f,41,36,8f,21,cc
{CtAs} 80 DATA 41,36,b3,21,2c,42
{BtAu} 90 DATA 36,f9,c3,05,40
{JuAq} 100 MEMORY &3000:y=0
{EwAs} 110 FOR x=&BE00 TO &BE34
{PxAu} 120 READ a$ :a=VAL ("&" +a$)
{MnAt} 130 POKE x,a:y=y+a:NEXT
{OwAs} 140 IF y<>&1416 THEN 200
{PwAs} 150 INPUT "start level ",a
{CsAt} 160 IF a>15 THEN 150
{MtAo} 170 POKE &BE1D,a
{FqAm} 180 LOAD ""
{BmAp} 190 CALL &BE23
{EmAr} 200 PRINT"data error!"
```

● **Multiface poke** for *Lost Caves* when on ZONE screen
Address = 1038
Poke = level no. (less than 16)



SAIGON COMBAT UNIT

Regular patron and general good guy, Graham Smith of Street coughs up tape and Multiface pokes for this unethical romp through the blood and gore of old Saigon. Meanwhile, Carl Surry of Barnet has supplied the password for the second side – STARLIGHT.

```
{GoAs} 1 ' Saigon Combat Unit
{HvAq} 2 ' By Graham Smith
{GkAs} 3 ' Infinite lives,
{AtAq} 4 ' ammo & bombs
{HoAq} 5 ' Tape - method 1
{FvAj} 6 '
{JnAt} 10 DATA c4,14,ac,3a,16,71
{BmAu} 20 DATA fe,02,20,0c,af,32
{PrAt} 30 DATA fe,a3,32,12,a4,32
{PvAt} 40 DATA 98,a3,fb,c9,af,32
{MsAt} 50 DATA 2d,a5,32,41,a5,32
{FiAt} 60 DATA c7,a4,fb,c9,3e,8f
{OjAu} 70 DATA 32,7f,41,3e,b3,32
{LxAt} 80 DATA cc,41,21,5e,46,36
{HxAw} 90 DATA f2,2b,36,db,2b,36
{FjAq} 100 DATA 0f,c3,05,40
{NvAs} 110 FOR j=0 TO 57:READ a$
{DpAu} 120 x=VAL ("&" +a$):y=y+x
{FvAu} 130 POKE j+48640,x:NEXT j
{BjAs} 140 IF y<>6344 GOTO 170
{LqAq} 150 MEMORY &3FFF:LOAD"
{IpAo} 160 CALL 48674
{OqAq} 170 PRINT"data error"
```

● Multiface pokes:

ADDRESS	POKE	EFFECT
SIDE A		
A398	00	lives
A3FE	00	ammo
A412	00	bombs
SIDE B		
A4C7	00	lives
A52D	00	ammo
A541	00	bombs

MUTANT FORTRESS

Get just that bit further along the road of this Players multi-load, mini-price game with an infinite lives tape poke from Peter Hall, Vietnam veteran and Basildon's ex-Elephant Man.

```
{BrAr} 1 'mutant fortress
{FrAj} 2 '
{MpAq} 3 'infinite lives
{FtAj} 4 '
{NrAs} 10 DATA 21,fa,ac,36,c3,23
```

```

{HkAt} 20 DATA 36,0e,23,36,be,c3
{PkAq} 30 DATA 00,ac,3e,a7,32,98
{JxAt} 40 DATA 07,cd,14,ac,fb,c9
{JwAs} 50 DATA 21,7f,41,36,8f,21
{EwAt} 60 DATA cc,41,36,b3,21,2c
{HxAt} 70 DATA 42,36,f9,c3,05,40
{MlAq} 80 MEMORY &3000:y=0
{FnAs} 90 FOR x=&BE00 TO &BE29
{NtAt} 100 READ a$:a=VAL(""+a$)
{KiAt} 110 POKE x,a:y=y+a:NEXT
{AjAt} 120 IF y>&1137 THEN 150
{HwAm} 130 LOAD ""
{MtAp} 140 CALL &BE18
{OvAq} 150 PRINT"data error!"

```

Exolon • Cybernoid • Cybernoid II

And while we're about it, how about infinite lives on Raph Ceccos other three masterpieces:-

- EXOLON: redefine the keys as Z,O,R,B,A.
- CYBERNOID: redefine the keys as Y,X,E,S.
- CYBERNOID II: redefine keys as O,R,G,Y.



TYPHOON

Let Roy Disney from Bury St. Edmunds put the "OO" in Typhoon (well, I thought it was quite good) for you with this tape and Multiface poke.

```

{FoAn} 1 'typhoon
{FrAj} 2 '
{MpAq} 3 'infinite lives
{FtAj} 4 '
{CmAt} 10 DATA 21,16,be,36,c3,23
{HkAt} 20 DATA 36,0e,23,36,be,c3
{MpAs} 30 DATA 84,98,21,17,be,22
{FrAt} 40 DATA 46,a5,c3,08,a5,dd
{NqAs} 50 DATA 21,b1,a7,11,ab,00
{MvAs} 60 DATA cd,40,a7,21,2a,Be

```

{AjAu} 70 DATA

22,5a,a8,c3,db,a7

```

{JpAu} 80 DATA af,32,84,70,32,36
{KsAr} 90 DATA 71,c3,60,13
{CkAp} 100 y=0:MEMORY &5000
{OrAr} 110 FOR x=&BE00 TO &BE33
{PxAu} 120 READ a$:a=VAL(""+a$)
{MmAt} 130 POKE x,a:y=y+a:NEXT
{JtAt} 140 IF y>&15D9:THEN 170
{MkAp} 150 LOAD"typhoon"
{LtAo} 160 CALL &BE00
{BjAs} 170 PRINT"data error!"

```

- Multiface Poke for infinite lives:

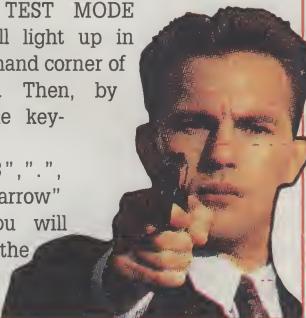
Address = B084 POKE = 00


New Zealand Story • Druid

Stephen Troupe (I think you will be seeing his name again) of Kings Lynn suggests that by typing FLUFFY very slowly on the title screen of New Zealand Story you get infinite lives, plus by pressing the large ENTER/RETURN key you can move to the next level. He also says that THE COVENANT typed into Druid's hi-score table removes all the monsters from the game.


THE UNTOUCHABLES

Stuart France from Hornchurch has found this cracker for *The Untouchables*. Type HUMPHREY BOGART into the hi-score table and TEST MODE ACTIVE will light up in the top left hand corner of the screen. Then, by pressing the keypad keys "9", "6", "3", ".", and "right arrow" together you will move on to the next level.

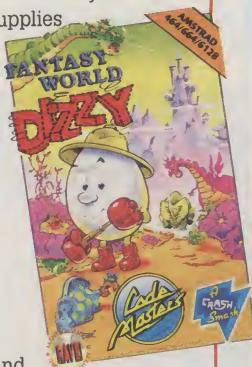

GHOSTBUSTERS 2

After the glorious technicolour *Ghostbusters II* tips in last month's *Cheat Mode*, here's the cheat which gives you infinite lives and the inedible ropes that Trent used (but chose not to tell you) for the first level. Press P to pause the game, then Type AYKROYD (get it?) and P to return to the game.



DIZZY 3

True to form those good ol' boys Oliver have stuck a cheat word in *Dizzy 3*. It turns out that DYLAN supplies more information than you think, 'cos that's the word. On the title screen press the keys "D", "Y", "L", "A", "N" and "SPACE" together to start the game, keeping your fingers on DYLAN press "Q" and you're in. Keys "K", "M", "Z" and "X" move location and Space returns you to the game. Nice one lads!



Andrew J Scott tells us to type LIVEWIRE into the Hi-score table of **Super Stuntman** for a never ending supply of everything.



JOE BLADE 3

Players' bouncing squaddie, hat trick game gets treated to infinity. Zap the guards, unlock the doors, rescue the hostages, plant the bombs, solve the puzzles, but do it quick, or you'll miss the start of *Joe Blade 4*... too late, *Joe Blade 5*.

```
{HsAp} 1 'joe blade 3
{FrAj} 2 '
{DvAt} 3 'infinite energy + ammo
{FtAj} 4 '
{NrAs} 10 DATA 21,fa,ac,36,c3,23
{HkAt} 20 DATA 36,0e,23,36,be,c3
{AsAr} 30 DATA 00,ac,c4,14,ac,3e
{IiAt} 40 DATA c9,32,57,0f,fb,c9
{JwAs} 50 DATA 21,7f,41,36,8f,21
{EwAt} 60 DATA cc,41,36,b3,21,2c
{HxAt} 70 DATA 42,36,f9,c3,05,40
{MLAq} 80 MEMORY &3000:y=0
{FnAs} 90 FOR x=&BE00 TO &BE29
{NtAt} 100 READ a$:a=VAL("a"+a$)
{KiAt} 110 POKE x,a:y=y+a:NEXT
{JjAu} 120 IF y>&1117 THEN 150
{HwAm} 130 LOAD"
{MtAp} 140 CALL &BE18
{OvAq} 150 PRINT"Data error!"
```

• Multiface Poke for infinite stuff:
ADDRESS = 0F57 POKE = C9



THE MULTIFACE WAY.

And finally, a plethora of Multiface Pokes from Paul Williams of Liangyi, Stephen Frackleton of Liverpool, Michael Leatherbarrow of Formby (how's George?) and Stephen Troup (I've seen that name before) of Kings Lynn.



Multiface pokes. Also, bear it in mind if one of the pokes you try refuses to work. (excuse number 472/B)

NAME	ADDRESS	POKE	EFFECT
Batman the Movie	1D62	FF	Removes grenades
Shinobi	0F62	00	Inf. lives
Vindicator level 1	05B4	A7	Inf. Oxygen
	0BD9	A7	Inf. lives
level 2	1D21	A7	Inf. lives
level 3	12F9	A7	Inf. lives
	060E	00	Inf. time (part 1)
	0615	00	Inf. time (part 2)
R-Type	927B	A7	Inf. credits
Joe Blade 3	2079	A7	No Baddies
Wec Le Mans	1345	00	Inf. time
Fast Food	570C	00	Inf. lives
Turbo Esprit	6FF7	7E	Lots of lives
Batty	432B	FF	255 lives
Buggy boy	1E7F	C9	Inf. time
Game Over	1F7C	00	Inf. lives
Combat School	042C	0A	Slows timer
Chase HQ (disc)	2022	00	Inf. time
	3820	00	Inf. turbo
Chase HQ (tape)	2074	00	Inf. time
	3872	00	Inf. turbo
Operation Thunderbolt	CF62	00	Inf. life
Ghouls'n Ghosts	3182	A7	Inf. life
Untouchables	0FD2	A7	Inf. time
Vigilante	5816	A7	Inf. life



Just in case you don't already know how to put in these BLACK BOX POKEs, here are the steps to success.

- Load the game as normal.
- Press the RED button on the MULTIFACE.
- Press "T" for tool.
- Press "*" to make sure you select the code.
- Press "H" for HEXADECIMAL input.
- Press "SPACE" for input.
- Type in the ADDRESS (4 characters ie 3A7C)
- Type in the POKE (2 characters ie. A7)
- Press "RETURN"
- Press "ESC" back to the menu
- Press "R" return to the game.



Stormlord

Ben James of Thrapston has found a cheat for *Stormlord* – you certainly need it. Type **BRINGONTHEGIRLS** (quickly and without spaces) while the title screen is displayed (a number 12 appears at the top left if you do it in time). Then selecting 1 to 4 will allow you to play that level with infinite lives.

GH~~O~~STBUSTERS II

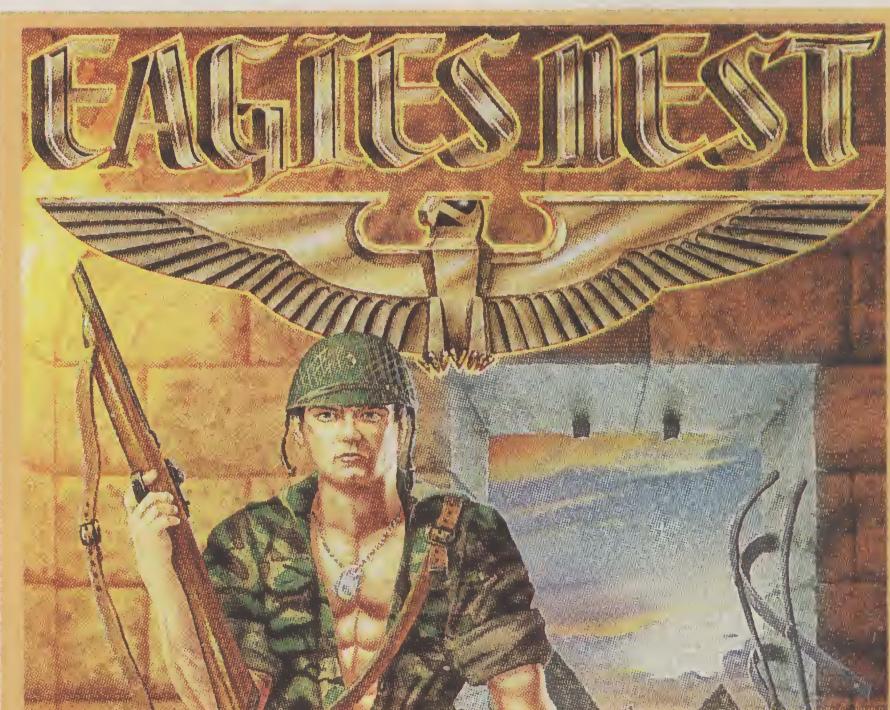
Christopher Burns and Stephen Docherty way up in Bearsden, Glasgow (If there's something weird in your neighbourhood) are both on the lookout for a bit of fame. To achieve it they have put together a playing guide for level 3 of *Ghostbusters II*, where actions have to be completed in a certain order. Take it away, guys:

- 1) Having abseiled the team in, chose any member to get Oscar from in front of the painting. Carry him away and give him to Peter (use the weapons select screen).
- 2) Select Winston, chase Janosz and shoot him with the slime gun until he disappears. Virgo should now walk out of the painting.
- 3) Change weapons so that Ray has Peter's Proton gun and Peter has Ray's Slime gun.
- 4) Pressing and holding down the Fire button will release a continuous stream from Ray's gun, which will remain firing after the button is released. Position Ray so that he is shooting at Virgo, causing him to be stunned. Then select Egon (Ray should continue to fire) and position him so that he is also shooting at Virgo, who should now start to lose energy. When the energy hits zero Virgo will possess Ray, the status screen will say that Ray is dead and anyone can take his gun. Now, any member with a Proton gun can fight Ray/Virgo, who, when hit, steps back. The final stage is to force Ray/Virgo into the painting, and he will die when his energy runs out.
- 5) Sit back and watch the End Game routine, and don't forget to look out for the spelling mistake on the last screen.

So who you gonna' call?....
Ghostbusterbusters. (Chris + Steph).


INDIANA JONES AND THE LAST CRUSADE

If you're not having a lot of success with the *Indiana Jones and the Last Crusade* cheat from AA52, that's because you press the keys "T", "O" and "D" all together on the title screen ONLY to turn the cheat on and off – the border should flash. During play SHIFT + "1" returns to start of the level. SHIFT + "2" moves you to the next restart. SHIFT + "3" moves you to the next level. How about that then?



A much-requested golden oldie is for *Into the Eagles Nest*. By typing **DAS CHT** into the hi-score table you attain infinite health. Unfortunately, you can still run out of ammo. Thanks to AA23 and Glenn Pinnock of Basingstoke for that one.

Anatomy of an RSX

Relocating RSXs is a toughie, but in Part 2 of his RSX tutorial, DAVID HOLMES reckons he has the answer...

It can be difficult to arrange for RSX routines to be relocatable as the code involves several absolute addresses which will require alteration unless the code is run at the address to which it was originally assembled.

It is not always easy to predict where in memory each user may wish to place the code as the presence of external ROMs or other RSX routines, for example, alter the value of HIMEM to a considerable degree. For this reason it is desirable to allow the code to be as flexible as possible.

There are two ways of achieving this. One way is to use a machine code relocator program which is added to the RSX code. This can be quite complex, however, and may involve a considerable amount of effort which is not justified in a short routine.

BASIC solution

The method used here is to use the BASIC loader program Listing 1 to relocate the code as described below.

When the program has been developed the code can be assembled to any reasonable position and then the bytes relating to any absolute address can be noted. It may be easiest to assemble to two different locations and then use the assembler to compare the two blocks of code. The addresses noted as different are those referring to absolute addresses.

An absolute address is an address that is defined as a fixed point in the memory rather than a point relative to the start of the code. Such an address will be always at the same distance from the start of the code but its actual value will depend upon the code origin. It is this value which must be adjusted to allow the code to run at any specific load address.

The problems occur in the first section of code which sets up the RSX. For example, the address of the command table defined in bytes two and three is an absolute address. The same applies to the address of the workspace defined in bytes five and six, the address of the name table defined in bytes &d and &e and the address of the label .fade defined in bytes &10 and &11. The remainder of the code contains no absolute addresses (other than Firmware calls) and is completely relocatable.

Only absolute addresses referring to locations within the code itself require relocation for different load addresses. Absolute addresses are used when registers are loaded from memory locations (either numbered or

labelled), when memory locations are loaded from registers and when calls or jumps (not relative jumps) are made to labelled locations. For this reason relative jumps (jr instructions) should be used when possible to reduce the amount of relocation work to be done. Firmware calls cause no problem as they are not affected by the position of the RSX code in memory.

Defining terms

In order to explain the principles of relocation clearly it is valuable to define some terms. The absolute address itself is defined within the code by the contents of an address which is at a fixed point from the start of the code. To use the example of the command table, its address is pointed to by bytes two and three. This is

true for any start address. The addresses of these bytes may be described as the Definition Offset Address (DOA) and this is found at the Definition Offset (DO) from the start of the code. For the command table the low byte of the DOA is at start+1 and the high byte is at start+2. Only one value is required to define the position of this address so I have chosen to use the offset of the high byte. Therefore the DO value used for the relocation of this address is two.

As stated above the absolute address pointed to is also at a fixed distance from the start of the code. The command table label for example is found at start + &0d. This may be described as the Absolute Offset Address (AOA) and it identifies a location at the Absolute Offset (AO) from the start of the code,

WIN WIN WIN....!

Smogware systems, which produces *RSX-Lib* (reviewed AA51) are offering five free copies of the package to readers sending in the best routines.

The rules are as follows:

1. Prizes will be awarded to the suppliers of the best five machine code routines received by the 30th April 1990 – "best" should mean "most powerful, most useful" etc, and will be decided by the AA team.
2. The winning routines must be *RSX-Lib*-able – i.e. they must be capable of relocation by *RSX-Lib* (with or without the Internal Relocation option being used).
3. Winning routines may be supplied as either CALLED routines or as RSX routines, but in the form of a BASIC program with DATA statements (so that those without assembler programs can make use of it). If supplied as an RSX routine, it must be capable of Dis-Assembly by *RSX-Lib*.
4. A special additional bonus prize of – gasp – a *Smogware sweatshirt* will go to one lucky winner...
5. Entries should be sent (with an SAE) to RSX COMP, Amstrad Action, Beauford Court, 30 Monmouth Street, Bath BA1 2AP. Remember, the competition closes on April 30th, so get cracking!

Smogware is also planning a version 2 of *RSX-Lib*, depending on how sales of the first program go. If Smogware goes ahead, the new version will:

- Be written entirely in machine code, resulting in faster execution in all areas and tidier memory usage. It should also free more space for library entries.
- Make use of extra memory on 6128.
- Give a Relocation Report, showing what code would be altered by Internal

Relocation and how – produced to screen or printer.

- Give a Dis-Assemble option to check for addresses outside the individual routine, but within the RSX file, and report them as errors to make it easier to identify routines that share code etc.
- Improve the existing 52 RSXs, and add further (more adventurous) ones.



LISTING 1: RSX RELOCATION

```

10 REM screen fade
20 REM by D. Polman
30 REM Dos 1.4M, pen, rate
40 start=HIMEM-440:REM &40 is the length of the code
50 MEMORY start-1:REM Sets HIMEM to one below start of code
60 addr=start
70 FOR lin=1 TO 8
80 READ bytes,checksum
90 check=0
100 FOR n=1 TO 15 STEP 2
110 byte=VAL("0"+MIDS(bytes,n,2))
120 check=check+byte
130 POKZ addr,byte:addr=addr+1
140 NEXT
150 IF checksum<>check THEN PRINT "error in line",1000+10*(lin-1):STOP
160 NEXT
170 REM Relocator section
180 RESTORE 1060
190 check=0
200 FOR n=1 TO 4
210 READ DOA,AOA:REM High byte value of DOA and AO value as hexadecimal string
220 DObyte=VAL("0"+DOA$)
230 AObyte=VAL("0"+AOA$)
240 check=check+DObyte+AObyte
250 AOAS=RSX$(start+AObyte):REM works out AOAs as a four digit hexadecimal string
260 DOAhi=start+DObyte:REM high byte of DOA
270 DOAlow=DOAhi-1:REM low byte of DOA
280 POKZ DOAlow,VAL("0"+RIGHT$(AOAS,2)):REM low byte of AOAs into low byte of DOA
290 POKZ DOAhi,VAL("0"+LEFT$(AOAS,2)):REM high byte of AOAs into high byte of DOA
300 NEXT
310 READ checksum
320 IF check<>checksum THEN PRINT "error in relocation data":STOP
330 CALL HIMEM-1:REM Call the code to log on the RSX
340 NEW:REM Erase loader so that it cannot be run twice. Save before running!
1000 DATA 0100122109A2C3B1, 784
1010 DATA 8C00000000!2ARC3, 563
1020 DATA 17A2464144C50FF, 839
1030 DATA 02C0DD7E02CD2CBC, 980
1040 DATA 571E002100C072DD, 877
1050 DATA 46002310FD3E00BC, 624
1060 DATA 300218F21C2100C8, 569
1070 DATA 6B7BDBE0020E7C9, 1105
1080 DATA 2,d,5,9,=12,11,17:REM DO and AO pairs as hexadecimal strings
1090 DATA 101:REM checksum

```

In this case the AOA equals start + &0d and the AO has a value of &0d.

To relocate the code each DOA must be loaded with the value of the related AOA. The DO values can be noted by an examination of the assembler listing or by using a comparison of the code assembled to two different locations as suggested above. The AO values are the offsets from the code origin of the actual values contained in both bytes of the DOA. These bytes must be subtracted from the code origin to give the AO value.

Most assemblers will allow assembly to a code origin of zero (although the code is stored elsewhere).

If the listing of this is examined the AO values can be read off directly for each DOA as the contents of the two bytes of each DOA give the value of the AO. Do not forget that they are given in low byte, high byte order and must be reversed to give the AO value. In short routines as in this case, only the low byte will

actually be used as the high byte will be zero.

The length of the code can be worked out from the assembler listing so the BASIC loader can reserve the correct number of bytes as shown in lines 30 and 40 of Listing 1. It is important that HIMEM is not below (&3fff+code length) when the program is run or the workspace and command table may be loaded below &3fff. This is below the lower ROM and the RSX will not be initialised.

The bulk of the code can then be poked in with a standard hex loader. To complete the program the relocator section reads in the pairs of DO and AO values from a DATA line.

Table of values

The table shows the DO and AO values for each address in the FADE program as taken from listing 2 (see AA54).

Label	Definition	Offset	Absolute
defined	(High byte)	Offset	

command_table	&2	&d
space	&5	&9
name_table	&e	&12
fade	&11	&17

As BASIC now knows the start address, it is easy to find each AOA by adding the value of the AO to start. If this is calculated in hexadecimal, the low and high bytes can be separated using the RIGHT\$ and LEFT\$ functions.

The high byte of the DOA can be found by adding the value of the DO to start. The low byte can be found by subtracting one from this value.

The low byte of the AOA is poked into the low byte of the DOA and the high byte of the AOA is poked into the high byte of the DOA.

This procedure is performed for each DOA and the code is then CALLED. This installs the RSX and the loader program is deleted to prevent it from being run again.

It is worth spending a little time adding a relocator to any RSX programs which are designed to store code just below HIMEM as this allows a library of routines to be built up. These can then be used when required with the minimum usage of memory as each routine can be added at the highest available location.

LISTING 2

```

1000 0100122109A2C3B1, 784
1010 8C00000000!2ARC3, 563
1020 17A2464144C50FF, 839
1030 02C0DD7E02CD2CBC, 980
1040 571E002100C072DD, 877
1050 46002310FD3E00BC, 624
1060 300218F21C2100C8, 569
1070 6B7BDBE0020E7C9, 1105
1080 2,d,5,9,=12,11,17:REM DO and AO pairs as hexadecimal strings
1090 101:REM checksum

        1000 0100122109A2C3B1, 784
        1010 8C00000000!2ARC3, 563
        1020 17A2464144C50FF, 839
        1030 02C0DD7E02CD2CBC, 980
        1040 571E002100C072DD, 877
        1050 46002310FD3E00BC, 624
        1060 300218F21C2100C8, 569
        1070 6B7BDBE0020E7C9, 1105
        1080 2,d,5,9,=12,11,17:REM DO and AO pairs as hexadecimal strings
        1090 101:REM checksum

        1000 0100122109A2C3B1, 784
        1010 8C00000000!2ARC3, 563
        1020 17A2464144C50FF, 839
        1030 02C0DD7E02CD2CBC, 980
        1040 571E002100C072DD, 877
        1050 46002310FD3E00BC, 624
        1060 300218F21C2100C8, 569
        1070 6B7BDBE0020E7C9, 1105
        1080 2,d,5,9,=12,11,17:REM DO and AO pairs as hexadecimal strings
        1090 101:REM checksum

        1000 0100122109A2C3B1, 784
        1010 8C00000000!2ARC3, 563
        1020 17A2464144C50FF, 839
        1030 02C0DD7E02CD2CBC, 980
        1040 571E002100C072DD, 877
        1050 46002310FD3E00BC, 624
        1060 300218F21C2100C8, 569
        1070 6B7BDBE0020E7C9, 1105
        1080 2,d,5,9,=12,11,17:REM DO and AO pairs as hexadecimal strings
        1090 101:REM checksum

        1000 0100122109A2C3B1, 784
        1010 8C00000000!2ARC3, 563
        1020 17A2464144C50FF, 839
        1030 02C0DD7E02CD2CBC, 980
        1040 571E002100C072DD, 877
        1050 46002310FD3E00BC, 624
        1060 300218F21C2100C8, 569
        1070 6B7BDBE0020E7C9, 1105
        1080 2,d,5,9,=12,11,17:REM DO and AO pairs as hexadecimal strings
        1090 101:REM checksum

        1000 0100122109A2C3B1, 784
        1010 8C00000000!2ARC3, 563
        1020 17A2464144C50FF, 839
        1030 02C0DD7E02CD2CBC, 980
        1040 571E002100C072DD, 877
        1050 46002310FD3E00BC, 624
        1060 300218F21C2100C8, 569
        1070 6B7BDBE0020E7C9, 1105
        1080 2,d,5,9,=12,11,17:REM DO and AO pairs as hexadecimal strings
        1090 101:REM checksum

        1000 0100122109A2C3B1, 784
        1010 8C00000000!2ARC3, 563
        1020 17A2464144C50FF, 839
        1030 02C0DD7E02CD2CBC, 980
        1040 571E002100C072DD, 877
        1050 46002310FD3E00BC, 624
        1060 300218F21C2100C8, 569
        1070 6B7BDBE0020E7C9, 1105
        1080 2,d,5,9,=12,11,17:REM DO and AO pairs as hexadecimal strings
        1090 101:REM checksum

        1000 0100122109A2C3B1, 784
        1010 8C00000000!2ARC3, 563
        1020 17A2464144C50FF, 839
        1030 02C0DD7E02CD2CBC, 980
        1040 571E002100C072DD, 877
        1050 46002310FD3E00BC, 624
        1060 300218F21C2100C8, 569
        1070 6B7BDBE0020E7C9, 1105
        1080 2,d,5,9,=12,11,17:REM DO and AO pairs as hexadecimal strings
        1090 101:REM checksum

        1000 0100122109A2C3B1, 784
        1010 8C00000000!2ARC3, 563
        1020 17A2464144C50FF, 839
        1030 02C0DD7E02CD2CBC, 980
        1040 571E002100C072DD, 877
        1050 46002310FD3E00BC, 624
        1060 300218F21C2100C8, 569
        1070 6B7BDBE0020E7C9, 1105
        1080 2,d,5,9,=12,11,17:REM DO and AO pairs as hexadecimal strings
        1090 101:REM checksum

        1000 0100122109A2C3B1, 784
        1010 8C00000000!2ARC3, 563
        1020 17A2464144C50FF, 839
        1030 02C0DD7E02CD2CBC, 980
        1040 571E002100C072DD, 877
        1050 46002310FD3E00BC, 624
        1060 300218F21C2100C8, 569
        1070 6B7BDBE0020E7C9, 1105
        1080 2,d,5,9,=12,11,17:REM DO and AO pairs as hexadecimal strings
        1090 101:REM checksum

        1000 0100122109A2C3B1, 784
        1010 8C00000000!2ARC3, 563
        1020 17A2464144C50FF, 839
        1030 02C0DD7E02CD2CBC, 980
        1040 571E002100C072DD, 877
        1050 46002310FD3E00BC, 624
        1060 300218F21C2100C8, 569
        1070 6B7BDBE0020E7C9, 1105
        1080 2,d,5,9,=12,11,17:REM DO and AO pairs as hexadecimal strings
        1090 101:REM checksum

        1000 0100122109A2C3B1, 784
        1010 8C00000000!2ARC3, 563
        1020 17A2464144C50FF, 839
        1030 02C0DD7E02CD2CBC, 980
        1040 571E002100C072DD, 877
        1050 46002310FD3E00BC, 624
        1060 300218F21C2100C8, 569
        1070 6B7BDBE0020E7C9, 1105
        1080 2,d,5,9,=12,11,17:REM DO and AO pairs as hexadecimal strings
        1090 101:REM checksum

        1000 0100122109A2C3B1, 784
        1010 8C00000000!2ARC3, 563
        1020 17A2464144C50FF, 839
        1030 02C0DD7E02CD2CBC, 980
        1040 571E002100C072DD, 877
        1050 46002310FD3E00BC, 624
        1060 300218F21C2100C8, 569
        1070 6B7BDBE0020E7C9, 1105
        1080 2,d,5,9,=12,11,17:REM DO and AO pairs as hexadecimal strings
        1090 101:REM checksum

        1000 0100122109A2C3B1, 784
        1010 8C00000000!2ARC3, 563
        1020 17A2464144C50FF, 839
        1030 02C0DD7E02CD2CBC, 980
        1040 571E002100C072DD, 877
        1050 46002310FD3E00BC, 624
        1060 300218F21C2100C8, 569
        1070 6B7BDBE0020E7C9, 1105
        1080 2,d,5,9,=12,11,17:REM DO and AO pairs as hexadecimal strings
        1090 101:REM checksum

        1000 0100122109A2C3B1, 784
        1010 8C00000000!2ARC3, 563
        1020 17A2464144C50FF, 839
        1030 02C0DD7E02CD2CBC, 980
        1040 571E002100C072DD, 877
        1050 46002310FD3E00BC, 624
        1060 300218F21C2100C8, 569
        1070 6B7BDBE0020E7C9, 1105
        1080 2,d,5,9,=12,11,17:REM DO and AO pairs as hexadecimal strings
        1090 101:REM checksum

        1000 0100122109A2C3B1, 784
        1010 8C00000000!2ARC3, 563
        1020 17A2464144C50FF, 839
        1030 02C0DD7E02CD2CBC, 980
        1040 571E002100C072DD, 877
        1050 46002310FD3E00BC, 624
        1060 300218F21C2100C8, 569
        1070 6B7BDBE0020E7C9, 1105
        1080 2,d,5,9,=12,11,17:REM DO and AO pairs as hexadecimal strings
        1090 101:REM checksum

        1000 0100122109A2C3B1, 784
        1010 8C00000000!2ARC3, 563
        1020 17A2464144C50FF, 839
        1030 02C0DD7E02CD2CBC, 980
        1040 571E002100C072DD, 877
        1050 46002310FD3E00BC, 624
        1060 300218F21C2100C8, 569
        1070 6B7BDBE0020E7C9, 1105
        1080 2,d,5,9,=12,11,17:REM DO and AO pairs as hexadecimal strings
        1090 101:REM checksum

        1000 0100122109A2C3B1, 784
        1010 8C00000000!2ARC3, 563
        1020 17A2464144C50FF, 839
        1030 02C0DD7E02CD2CBC, 980
        1040 571E002100C072DD, 877
        1050 46002310FD3E00BC, 624
        1060 300218F21C2100C8, 569
        1070 6B7BDBE0020E7C9, 1105
        1080 2,d,5,9,=12,11,17:REM DO and AO pairs as hexadecimal strings
        1090 101:REM checksum

        1000 0100122109A2C3B1, 784
        1010 8C00000000!2ARC3, 563
        1020 17A2464144C50FF, 839
        1030 02C0DD7E02CD2CBC, 980
        1040 571E002100C072DD, 877
        1050 46002310FD3E00BC, 624
        1060 300218F21C2100C8, 569
        1070 6B7BDBE0020E7C9, 1105
        1080 2,d,5,9,=12,11,17:REM DO and AO pairs as hexadecimal strings
        1090 101:REM checksum

        1000 0100122109A2C3B1, 784
        1010 8C00000000!2ARC3, 563
        1020 17A2464144C50FF, 839
        1030 02C0DD7E02CD2CBC, 980
        1040 571E002100C072DD, 877
        1050 46002310FD3E00BC, 624
        1060 300218F21C2100C8, 569
        1070 6B7BDBE0020E7C9, 1105
        1080 2,d,5,9,=12,11,17:REM DO and AO pairs as hexadecimal strings
        1090 101:REM checksum

        1000 0100122109A2C3B1, 784
        1010 8C00000000!2ARC3, 563
        1020 17A2464144C50FF, 839
        1030 02C0DD7E02CD2CBC, 980
        1040 571E002100C072DD, 877
        1050 46002310FD3E00BC, 624
        1060 300218F21C2100C8, 569
        1070 6B7BDBE0020E7C9, 1105
        1080 2,d,5,9,=12,11,17:REM DO and AO pairs as hexadecimal strings
        1090 101:REM checksum

        1000 0100122109A2C3B1, 784
        1010 8C00000000!2ARC3, 563
        1020 17A2464144C50FF, 839
        1030 02C0DD7E02CD2CBC, 980
        1040 571E002100C072DD, 877
        1050 46002310FD3E00BC, 624
        1060 300218F21C2100C8, 569
        1070 6B7BDBE0020E7C9, 1105
        1080 2,d,5,9,=12,11,17:REM DO and AO pairs as hexadecimal strings
        1090 101:REM checksum

        1000 0100122109A2C3B1, 784
        1010 8C00000000!2ARC3, 563
        1020 17A2464144C50FF, 839
        1030 02C0DD7E02CD2CBC, 980
        1040 571E002100C072DD, 877
        1050 46002310FD3E00BC, 624
        1060 300218F21C2100C8, 569
        1070 6B7BDBE0020E7C9, 1105
        1080 2,d,5,9,=12,11,17:REM DO and AO pairs as hexadecimal strings
        1090 101:REM checksum

        1000 0100122109A2C3B1, 784
        1010 8C00000000!2ARC3, 563
        1020 17A2464144C50FF, 839
        1030 02C0DD7E02CD2CBC, 980
        1040 571E002100C072DD, 877
        1050 46002310FD3E00BC, 624
        1060 300218F21C2100C8, 569
        1070 6B7BDBE0020E7C9, 1105
        1080 2,d,5,9,=12,11,17:REM DO and AO pairs as hexadecimal strings
        1090 101:REM checksum

        1000 0100122109A2C3B1, 784
        1010 8C00000000!2ARC3, 563
        1020 17A2464144C50FF, 839
        1030 02C0DD7E02CD2CBC, 980
        1040 571E002100C072DD, 877
        1050 46002310FD3E00BC, 624
        1060 300218F21C2100C8, 569
        1070 6B7BDBE0020E7C9, 1105
        1080 2,d,5,9,=12,11,17:REM DO and AO pairs as hexadecimal strings
        1090 101:REM checksum

        1000 0100122109A2C3B1, 784
        1010 8C00000000!2ARC3, 563
        1020 17A2464144C50FF, 839
        1030 02C0DD7E02CD2CBC, 980
        1040 571E002100C072DD, 877
        1050 46002310FD3E00BC, 624
        1060 300218F21C2100C8, 569
        1070 6B7BDBE0020E7C9, 1105
        1080 2,d,5,9,=12,11,17:REM DO and AO pairs as hexadecimal strings
        1090 101:REM checksum

        1000 0100122109A2C3B1, 784
        1010 8C00000000!2ARC3, 563
        1020 17A2464144C50FF, 839
        1030 02C0DD7E02CD2CBC, 980
        1040 571E002100C072DD, 877
        1050 46002310FD3E00BC, 624
        1060 300218F21C2100C8, 569
        1070 6B7BDBE0020E7C9, 1105
        1080 2,d,5,9,=12,11,17:REM DO and AO pairs as hexadecimal strings
        1090 101:REM checksum

        1000 0100122109A2C3B1, 784
        1010 8C00000000!2ARC3, 563
        1020 17A2464144C50FF, 839
        1030 02C0DD7E02CD2CBC, 980
        1040 571E002100C072DD, 877
        1050 46002310FD3E00BC, 624
        1060 300218F21C2100C8, 569
        1070 6B7BDBE0020E7C9, 1105
        1080 2,d,5,9,=12,11,17:REM DO and AO pairs as hexadecimal strings
        1090 101:REM checksum

        1000 0100122109A2C3B1, 784
        1010 8C00000000!2ARC3, 563
        1020 17A2464144C50FF, 839
        1030 02C0DD7E02CD2CBC, 980
        1040 571E002100C072DD, 877
        1050 46002310FD3E00BC, 624
        1060 300218F21C2100C8, 569
        1070 6B7BDBE0020E7C9, 1105
        1080 2,d,5,9,=12,11,17:REM DO and AO pairs as hexadecimal strings
        1090 101:REM checksum

        1000 0100122109A2C3B1, 784
        1010 8C00000000!2ARC3, 563
        1020 17A2464144C50FF, 839
        1030 02C0DD7E02CD2CBC, 980
        1040 571E002100C072DD, 877
        1050 46002310FD3E00BC, 624
        1060 300218F21C2100C8, 569
        1070 6B7BDBE0020E7C9, 1105
        1080 2,d,5,9,=12,11,17:REM DO and AO pairs as hexadecimal strings
        1090 101:REM checksum

        1000 0100122109A2C3B1, 784
        1010 8C00000000!2ARC3, 563
        1020 17A2464144C50FF, 839
        1030 02C0DD7E02CD2CBC, 980
        1040 571E002100C072DD, 877
        1050 46002310FD3E00BC, 624
        1060 300218F21C2100C8, 569
        1070 6B7BDBE0020E7C9, 1105
        1080 2,d,5,9,=12,11,17:REM DO and AO pairs as hexadecimal strings
        1090 101:REM checksum

        1000 0100122109A2C3B1, 784
        1010 8C00000000!2ARC3, 563
        1020 17A2464144C50FF, 839
        1030 02C0DD7E02CD2CBC, 980
        1040 571E002100C072DD, 877
        1050 46002310FD3E00BC, 624
        1060 300218F21C2100C8, 569
        1070 6B7BDBE0020E7C9, 1105
        1080 2,d,5,9,=12,11,17:REM DO and AO pairs as hexadecimal strings
        1090 101:REM checksum

        1000 0100122109A2C3B1, 784
        1010 8C00000000!2ARC3, 563
        1020 17A2464144C50FF, 839
        1030 02C0DD7E02CD2CBC, 980
        1040 571E002100C072DD, 877
        1050 46002310FD3E00BC, 624
        1060 300218F21C2100C8, 569
        1070 6B7BDBE0020E7C9, 1105
        1080 2,d,5,9,=12,11,17:REM DO and AO pairs as hexadecimal strings
        1090 101:REM checksum

        1000 0100122109A2C3B1, 784
        1010 8C00000000!2ARC3, 563
        1
```

K & M COMPUTERS

THE LEADING AMSTRAD MAIL ORDER SPECIALISTS

ADVENTURE CASS DISC

Time and Magik	£11.25	£11.25
Gnome II: Ingrids back	£11.25	£14.75
Tolkien Trilogy	£10.50	£14.75
Scape Ghost	£11.25	£14.75

COMPILATIONS

Soccer Spectacular	£10.50	£13.10
Special Action	£10.50	£13.99
The Story So Far (Vol. 2)	£10.25	£11.25
The In Crowd	£11.25	
100% Dynamite	£11.25	
Taito Coin-op (inc. Rastar)	£9.90	
Supreme Challenger (Inc Elite)	£9.90	£13.10
The Biz	£11.25	
Flight Ace	£11.25	£13.95
Winners	£10.50	£15.95
We are the Champions	£7.75	£13.10
Game Set & Match II	£9.90	£13.95
Space Ace	£10.50	£11.25
Megamix	£11.25	
Coin Op Hits	£11.25	£15.95
Christmas Collection	£10.50	£14.25

STRATEGY / SIMULATION

Kenny Dalglish	£7.75	
Football Manager II	£7.75	£11.25
Fball Man.II Expansion Kit	£6.25	£7.25
Football Director II	£14.75	
Gunship	£11.25	£14.75
Ancient Battles	£11.25	£11.25
Micropose Soccer	£11.25	£14.75
Chuck Yeagers Ad Trainer	£7.75	£11.25
Kick Off	£7.75	£11.25
Bards Tale (Phone)	£2.75	£6.25
Passing Shot	£7.75	£11.25
Treble Champions	£7.75	
The National	£7.75	
Jack Niklaus	£7.75	£13.99
Heroes of The Lance	£7.75	£15.90
Airborne Ranger	£11.25	£14.75
Emlyn Hughes Soccer	£7.75	£11.25
Gazza Soccer	£7.75	£11.25
Track-Suit Manager	£7.75	
Laser Squad	£7.75	£11.75
4 Soccer Simulator	£7.75	£11.25
Archon Collection	£2.75	£6.25
Championship Golf	£7.75	
Carrier Command	£14.25	
Australian Football	£7.75	
Pictionary	£11.25	£14.75

EDUCATIONAL

Answer Back Jnr	£7.95	£11.95
Factfile 500s	£3.75	£6.75
Fun School (U5s, 5-8, 8-12)	£5.50	£7.95
Maxi Maths (Geometry)	£8.50	£13.95
The Three Bears (6128)	£15.95	
Happy Breathing (12-16)	£13.95	
Magic Maths (4-8)	£8.50	£12.95
Maths Mania (8-12)	£8.50	£12.95
Chemistry GCSE	£11.90	£14.95
Physics GCSE	£11.90	£14.95
Biology 1 (12-16)	£8.50	£12.95
Wordhang	£7.50	£11.95
Happy Writing	£7.50	£11.95
Physics 1 (12-16)	£8.50	£13.95
Mapwork Geography Quiz	£8.50	£13.95
Spanish Tutor	£12.95	£15.95
French Mistress	£12.95	£15.95
German Master	£12.95	£15.95
Iankey Crash Course (6128/PCW)	£19.90	
Iankey Two Finger (6128/PCW)	£19.90	
Fun School 2 (U6's, 6-8, 8+)	£7.99	£9.99

3 1/2

HIGH CAPACITY 2ND DRIVE
with RAMDOS.....£108
with ROMDOS.....£118
with RODOS.....£118

£79

K & M Computers (AA)
140, Sandy Lane Centre
Skelmersdale,
Lancs, WN8 8LH
Fax No: 0695 50673
24 Hrs Phone 0695 29046

All items are subject to availability

When ordering please state make of computer.
Please make cheques & P.O. payable to K & M Computers.
Overseas inc. Eire add £1.00 per item of software.
We supply government & educational establishments.

Shop Open 9-6 Mon-Sat

ARCADE

Powerdrift	£7.75	£11.25
Rainbow Island	£7.75	£11.25
Run The Gauntlet	£7.75	£11.25
Vigilante	£7.75	£11.25
Robocop	£7.75	£11.25
Xenon	£7.75	£11.25
Ninja Warrior	£7.75	£11.25
Ghouls 'n' Ghosts	£7.75	£11.25
Indy (Last Crusade)	£7.75	£11.25
Continental Circus	£7.75	£11.25
Rally Cross	£7.75	£11.25
Crazy Cars II	£7.75	£11.25
Beverley Hills Cop	£7.75	£11.25
Elite	£7.75	
The Untouchables	£7.75	£11.25
Vindicators	£7.75	£11.25
Tusker	£7.75	£11.25
Purple Saturn Day	£7.75	£11.45
Xenophobe	£7.75	£11.25
Dynamite Dux	£7.75	£11.25
Batman (The Movie)	£7.75	£11.25
Dragon Ninja	£7.75	£11.25
Moon Walker	£7.75	£11.25
Rick Dangerous	£7.75	£11.25
Test Drive 2	£7.75	£13.99
Knightforce	£7.75	£11.25
Cabal	£7.75	£11.25
P47	£7.75	£11.25
Shinobi	£7.75	£11.25
Beach Volley	£7.75	£11.25
Strider	£7.75	£11.25
Chase HQ	£7.75	£11.25
Turbo Outrun	£7.75	£11.25
Hard Drivin'	£7.75	£11.25
Ghost Busters II	£8.99	£11.25
Operation Thunderbolt	£7.75	£11.25
Toobin	£7.75	£11.25

BUDGET CASS ONLY

Winter Games	£2.75	
Spy Hunter	£2.75	
Battleships	£1.80	
Nigel Mansells	£2.75	
Space Harrier	£2.75	
Frank Bruno Boxing	£1.80	
Thundercats	£2.75	
On The Bench	£2.75	
Turbo Esprit	£1.80	
BMX Simulator II	£2.75	
Ghostbusters	£1.80	
720	£2.75	
Formula Grand Prix	£1.80	
Paperboy	£2.75	
Rugby Boss	£1.80	
Mig 29	£2.75	
Father Christmas	£2.75	
System 8	£2.75	
Bombjack	£1.80	
Twin Turbo V8	£2.75	
Buggy Boy	£2.75	
B.M.X. Freestyle	£2.75	
Roadrunner	£2.75	
Kickstart II	£1.80	
Rocky Horror Show	£1.80	
Postman Pat	£1.80	
Jokey Wilson Darts	£2.75	
Grand Prix Sim 2	£2.75	
Green Beret	£2.75	
Treasure Island Dizzy	£2.75	
Fast Food	£2.75	
Adv. Pinball Sim.	£2.75	
Gauntlet II	£2.75	
1942	£2.75	
Batman	£2.75	
Street Cred Boxing	£2.75	

Lowest Prices
Available on
Printer Ribbons

Special prices on
A.M.S. Software

StopPress	£39.95
StopPress & Mouse	£72.95
Mouse & Art	£61.95
Mouse Mats	£4.95
Max	£16.95
Extra Extra	£21.95

KDS Electronics
Special Offers

Rombox	£24.95
51/2 Second Drive	£158.95
8 Bit Pr. Port	£18.75
Serial Int + Rom	£44.95
Printer T Switch	£24.95
Screen Master	£14.95
Ramdos (Disc)	£23.95
Romdos (Rom)	£27.95

KDS Modems are no
longer available

Mini Office II
Still our No1 Seller

Cass £11.25 Disc £14.75

Amsoft/Maxell 3" Discs

One	£2.50
Five	£12.50
Ten	£24.50
5 1/2 Discs TEN	£3.90
3 1/2 Discs TEN	£9.50

A Swift Reduction on
Arnor Products

Protext	Disc	£18.45
Protext	Rom	£28.45
Promerge	Disc	£18.45
Promerge+	Rom	£23.45
Prospell	Disc	£17.45
Prospell	Rom	£23.45
Maxam	Disc	£18.45
Maxam	Rom	£28.45
Maxam 1.5	Rom	£21.45
Utopia	Rom	£21.45

SPECIAL OFFER ORDER ANY THREE

£2.75 Budget games
and pay only £8.00

DMP 2000/2160/3000

Ribbons
£3.25 each
£5.99 for Two
£13.50 for Five

ACCESSORIES

Rombo Rombox	£34.95
464 Keyboard Ext Leads	£6.99
6128 Keyboard Ext Leads	£7.99
Cover Set 464 or 6128	£7.50
Cover Set DMP 2000/2160	£4.50
3" Drive Cleaner	£4.99
Cassette Player & Leads	£19.99
6128 Cassette Leads	£3.50
Lockable 3" Disc Boxes	£9.99
AMS 30L Disc Box	£12.50
Ribbon Refresh	£7.95
Joystick Splitter	£7.99

JOYSTICKS

Jetfighter	£14.95
Konix Navigator	£13.95
Digital	£7.50
Cheetah 125+	£7.95
Superboard	£11.99
Konix Autofire	£11.95
Konix Speedking	£9.99
Cruiser (Microswitch)	£9.50
Delta	£9.50
Wico Ergostik	£17.75
Amstrad JV2	£13.95
Pro 5000	£13.95
Quickshot Turbo	£10.50
Micro Blaster	£12.50
Junior	£5.99

DISC

Adv. Art Studio	£19.99
Money Master	£19.95
Tasword 6128	£20.95
Money Manager	£24.95
Mastercalc 128	£27.95
Qualitas+ v.2	£15.95
Masterfile 3	£32.95
Plan-It	£14.75
Professional Adv. Writer	£24.95
Art Studio & Mouse	£49.95
Tasspell	£13.95

NEW LINES AT LOWEST PRICES

Atari ST Super Pack	£360.00
Amiga Bat Pack	£380.00
PCW8256 (Inc VAT)	£389.00
PCW8512 (Inc. VAT)	£499.00
PCW9512 (Inc VAT)	£510.00
PPC512 (Inc VAT)	£449.00
PC1512 (Inc VAT)	£449.00
PC1640 (Inc VAT	

AA Buyers Guide



This is the place to find what software and hardware is available for your CPC. We list programs by category, and provide producer, phone number, price, issue in which the item was reviewed; and last but not least, a brief description of the program's features and, where appropriate, shortcomings.

But don't take our word for it: if you're in doubt read the original review before you splash out, and make sure by asking the person you're buying from that it meets your particular needs. Best of all is a try-out, if you can find a friend who has what you're thinking of buying.

WORD PROCESSING

Brunword

Brunnning Software **0245 252854**

£30.00 (6128) disk, £25 (464) disk • AA24

Complete word processor package with spelling checker, 30,000-word dictionary and card filing programme. Spell checker and dictionary loaded with the main programme. 40, 80 and 128-column screen modes and fast screen response. Tutorial file makes learning the system easy.

Pendown

Logotron **0223 323656**

£19.95 disk • AA18

A complete tutorial in the theory and practice of word processing – it's great fun, too. Open system, owing much to expensive DTP packages.

Protext

Arnor **0733 68909**

£19.95 tape, £26.95 disk, £39.95 ROM • AA3

Lightning fast on all tasks involving screen. True merging from separate files and disks to the cursor position is easy, and Protext supports standard CPC RSX's like DISC, TAPE, CAT etc. ROM version is excellent. Bad points: maximum file space limited to machine memory – about 22K on disk, 38K for the ROM version. As used by AA, if that's any recommendation (don't answer that).

Tasword

Tasman Software **0532 4388301**

464, 464D, 6128, £19.95 tape, £24.95 disk • AA1

464 is the tape based version (the same as Amsword). 464D has enhancements for a disk drive. 6128 makes full use of a 6128's extra memory. The latter pair include mailmerge facility. Easy to get to know: comprehensive help screens. Screen operations are slow, but may be customised for greater speed.



Wordstar

Microp/Cumana 0483 571666

£49.95 disk (CPM) • AA1

Files can be as big as the space available. A professional program, with huge manual and a layout like mission control. If you want a function, it is in there... somewhere. Not fast.

PRINTERS

Manufacturers' recommended retail prices are listed as guidelines, but heavy discounts are offered by retailers.

Amstrad DMP/2160

0279 454555

£149 including VAT • AA6

Load through front: printer must be above paper; but loading continuous stationery is easy. Poor NLQ mode. £5 for ribbons. Low priced, rather than a bargain.

Amstrad DMP3160

0279 454555

£199 + VAT • AA29

Similar to but faster than DMP2160. Accepts all IBM and Epson printing codes. NLQ is front loading system. Good buy.

Amstrad DMP4000

0279 454555

£349 + VAT • AA20

A real text-cruncher. Wide carriage, and really flies across the paper, up to about 200 cps (in NLQ about 50 cps). Fonts available: standard 9 pin Pica, Elite, condensed etc. – but they are different, rather than just adjusted spacing for the same characters.

Amstrad LQ3500

0279 454555

£349 + VAT • AA31

Cheapest 24-pin printer. Paper loaded from the rear – more time consuming: 30 cps in letter quality mode, and 62 cps in draft. Print quality excellent: plenty of different type-styles built in. Not ultra fast.

Citizen 120D

0800 282692

£199 + VAT • AA43

Dimensions: 3.7 kgs, and 370mm x 90mm x 238mm. Draft quality is 'dotty' and poor, but NLQ is sharp and simple. A quiet beast, with cable to the computer connected on the side. Manual includes a complete written breakdown of all the printer control commands, and their effects.

Epson LX800

01 902 8892

£279 + VAT • AA29

Very fast for 9 pin. Control panel for style selection, and Epson compatible. Reverse winding sheets requires care, though.

Epson EX800

01 902 8892

£629 + VAT • AA29

Upgradable in 101 ways – cut sheet feeds, serial ports, longer life ribbons. Quiet, with respectable printing speed. Sans Serif/Roman NLQ fonts incorporated. Control panel to select fonts – just the same font with different spacings.

Epson LQ500

01 902 8892

£399 + VAT • AA29

Features galore and price to match. Handles both Sans Serif and Roman styles of NLQ, for instance. Colour-printing upgrade kit available. 24 pin printer, offering excellent quality printing. Control panel to select from many available fonts (ie. the same font at different widths).

Panasonic KXP3131U

0753 73181

£335.25 (discont.) • AA29

Daisywheel therefore superb quality – but can't print bit graphics (no trendy screen dumps), and if you want different fonts, you have to plug in a different Diablo-compatible one. Not quiet.

Mannesmann Tally MT81

0734 788711

£149 + VAT • AA43

Dimensions: 70mm x 100mm x 265mm; weight, 4.5 kgs. Prints Epson and IBM graphics. Draft mode print quality is good: square printhead pins put ink onto greater areas. The printed output is more ornate than the Citizen. Manual is superb, but falls down in failing to explain control codes: for that you have to buy the applications manual. Certainly a very good buy.

Panasonic KXP1081

0753 73181

£219 + VAT • AA29

Similar to DMP2000/2160: chunky, 9 pins, 10 inch carriage and compatible with Epson codes. Thorough A4 manual, good NLQ mode – better than DMP – and condensed, draft and NLQ modes.

Star LC-10

0494 471111

£199/259 + VAT • AA32

First price is for standard dot matrix printer. Fonts selected by button, rather than typing in fiddly control code. Second

price is for relatively inexpensive colour model. The machine uses multi-colour ribbon to produce different mixes, though there are currently no commercial programs to take advantage of this capability (but see the *Colouredump* review in AA46, page 24).

Star LC 24-10

0494 471111
£299 + VAT • AA47

A low-cost 24 pin, 10 inch, 80 column Letter Quality printer; 8 resident fonts, all operable from the front control panel and 3 print variations.



INTEGRATED PACKAGES

Info-Script

Bunning 0245 252854
£50 disk • 128K only • AA35

Billed as the "complete database with word-processor and spelling checker," it's best with 256K. Well set up, easy to use and allows for changes in layout and content. Recently 'supercharged'.

Protext Filer/Office

Arnor 0733 68909
£24.95/£34.95 disk • AA34

Database that works comfortably with Protext, has powerful sorting options and comprehensive invoice printer. Can be slow, but good value.

Mini Office II

Dimension 0733 673000
£14.95 tape, £20.95 disk • AA4

A comprehensive database and word processor. Includes a mail merge facility and a small graphics subprogram. Also includes a mail, payroll and cash book. Not full menu driven, but a lot of Mail merge, Word and Database.



EDUCATIONAL PROGRAMS

Amstrad Selection

Fernleaf Education 0474 359037

£25.95 disk/tape • AA32

For age range 7 to 12+: Eight programs – including *Fletcher's Castle*, *Market Stall*, *The Perfume Hunter*, *The Raiders*, *Ferry Captain*, *Treasure*, and *Thorn Sea*.

Arc Master Pack Plus

Arc Education 0472 812226

£48 disk • AA32

A massive pack of 90 programs: Junior, Primary, a parent/child adventure; DR Logo and word games. Each set available at £10 tape and £12.50 disk. Well presented with good graphics, reasonable musical ditties and plenty of options.

Kosmos

Kosmos 05255 3942

£9.95 tape, £13.95 disk • AA32

Answer Back Junior Quiz lets you either answer the question; make a choice from a number of options; or say whether something is true or false. There's also *Factfile 500*, sets of additional questions for the program: arithmetic, spelling, sport and natural history.

The other range from Kosmos: vocabulary tutors in French, Spanish, German and Italian.

Play School

School Software 010353 6149477

£9.95 tape, £14.95 disk • AA32

Six different utilities including Counting, Find It, Paintbox,

Shapes, Match-up and How Much? Paintbox is the best.

Other programs in the range are also worth a look, including *Biology*, *Chemistry* and *Physics* for older children.

Funschool 2

Dimension Software 0843 379880

£24.95 tape, £34.95 disk • AA32

£24.95 disk • AA32

Welcome to the first educational software designed to teach the basic skills of the weekly curriculum.

Actually

teach the same

programmes here

as the school, but

with lots and lots

of fun!

For 6-8 year olds

For the Under-6s

For 3-5 year olds

For the Under-3s

For 0-3 year olds

For the Under-0s

Cracker

Newstar Software □ 0245 265017

£49.00 disk CPM+ ● AA19

Spreadsheets must be created from scratch. Documentation good, command sequences soon learned. Mathematical functions well done, with random numbers catered for. Files limited to 17K – and formulae programming not well implemented.



SOUND

Amdrum

Cheetah □ 0222 555525

£34.95 ● AA13

Digital drum machine. Editor comprehensive. Not Midi compatible: to hear output you plug it into amplifier.

DHCP Midi Interface

DHCP □ 0440 61207

£69.95 interface, £34.95+ disk s'ware ● AA33

DHCP produce Midi software for various Midi interfaces for CPC, which are incompatible with each other.

Foundation Step-Time Sequencer

Foundation Software □ 0252 543945

£34.95 disk

Quite simply the only step-time sequencer you can buy for your CPC.

Miditrack Performer

EMR □ 0702 335747

£49.95 interface, £79.90/£89.90 tape/disk s'ware ● AA13

Midi interface plus sequencing software to drive Midi equipped instruments. Records each instrument then plays them all at once. Onscreen layout similar to multi-track recorder. Excellent.

Sound Blaster

Siren Software □ 061 228 1831

£34.99 ● AA23

Amplifier and pair of loudspeakers that plug into CPC for maximum 2 watts sound effects.

Midi Interface

Silicon Systems □ 061 848 3959

£59.95 interface, £59.95 software ● AA26

Mouse, arms

Dot software

You can use

With it - UX7

SP11, MT23

DS0 and C210

- diverse

Extensive

0.5ms var

and lack pre-

sentation of

EMR

sequencer

High perfor-

mance

Ram Music Machine

RAM Electronics (Data) □ 0782 744707

£49.95 tape, £59.95 disk ● AA17

All in one music package. Midi interface, sound sampler and sequencer. Comes in two handleable formats of plastic or metal. 160 different software and music editor capabilities. No through port. Sound, no ROM which means no tape volume. And you can add the player. MIDI compatible.



VISION

AMX Art

Database □ 0625 878888

£69.95 disk (includes mouse) ● AA7

User friendly, if little unsophisticated compared to Advanced Art Studio, but mouse helps greatly. Colour, spraycans, textures, circles and host of other features.

Advanced Art Studio

REC □ 0753 388466

£24.95 disk ● AA21

Recently revitalised, this is the user friendly, best and most powerful art package, works in all three modes. Can cycle through inks, and cut and paste different areas, transformations and reflections. Fill routines in coloured patterns. Available as a standard version for £15.95.



Cherry Paint

Siren Software □ 061 228 1831

£9.99 disk ● AA20

WIMP controlled – ie mouse moves pointer to various icons to pull-down menus. B/W mode 2 only, but fun. Curves are difficult, but this is a bargain.

DART Scanner

Dart Electronics □ 0502 513707

£79.95 ● AA22

Attach reading device to your DMP2000, 3000 or 3160. Feed in picture to printer: device reads in picture as B/W image. Quality onscreen isn't amazing, but it works and it's fun.

The Informer

Treasure Island Software □ 0492 593549

£29 disk ● AA33

For creating animated displays, suitable for classroom and shop window: takes text, graphics and animated displays

and produces slide show. Works best but not only with Parrotty Plus (see below).

Parrotty Plus

Treasure Island Software □ 0492 593549

£19.95 disk ● AA30

Rather than lots of effects used anywhere and at any time, Parrotty Plus 'remembers' every alteration and plays through the list to create animation. Note: can't dump pictures to printer without external program.

CRL Image System

Cast □ 01 833

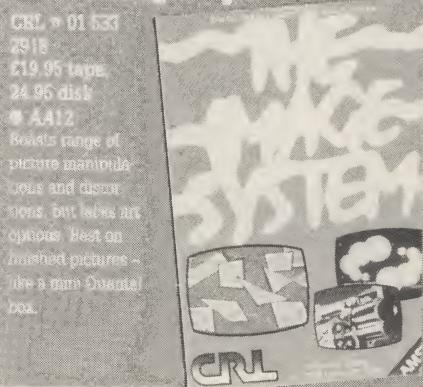
2918

£19.95 tape,

24.95 disk

● AA12

Extends range of picture manipulations and distortions. But lacks 3D options. Based on 'frozen' pictures – like a game Quattro box.



Vidi Digitizer

Rombo Productions □ 0506 414631

£89.95 ● AA15

Grabs picture from video recorder or camera and puts it on CPC screen, allowing you to alter it with an package. Easy to use. Software on tape, disk or ROM includes superb printer dump routine.

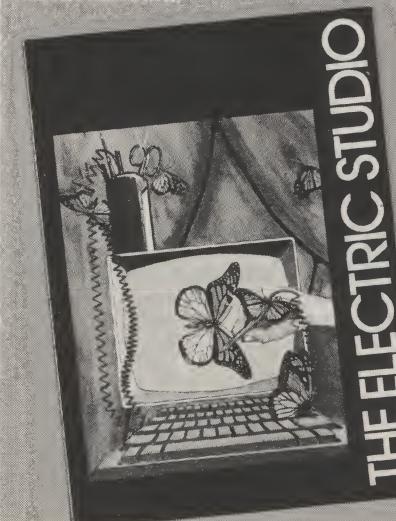
Electric Studio Light Pen

Pen

Electric Studio □ 0482 420222

£19.95 cass, £29.95 disk ● AA1

Excellent drawing software, including rubber-banding shapes and lines, filling areas, spray can etc. Accepts software written for it.



● Corrections, additions or ideas for sections to be included are welcome. Drop a line to: AA Buyers, Amstrad Action, 4 Queen St, Bath BA1 1EJ

AA56 is due to hit the
streets on April the
12th. If you don't
want to be the only
one your street with-
out a copy, RESERVE
ONE NOW!

AAfterthought

Want to know what sort of month we've had? - terrible. And we're going to tell you all about it.

First of all, there was Rod's Paris trip to see Titus. Now it wasn't just the ten days of gloating we had to endure before he went away, or the 'phone calls he made at two o'clock in the morning telling us what a great time he was having. It wasn't even all the wining and dining he did that he insisted on telling us about, or how comfortable the flight was...

No, what really wound us up was that he got a ride in a helicopter and we didn't. That really cheezed us off...

Mind you, we got the last laugh. Who went down with food poisoning within 48 hours of getting back? Ho ho ho...

Trenton's slippage

Trenton was especially fed up. Where most of us were fed up with the weather, fed up about our hangovers, fed up that we'd spent our entire paycheques in the first week of the month... Trenton was fed up with games slippage.

"Where's *X-Out*?" he wailed, to no-one in particular; "Where's *Bloodwyche*?" he asked the sandwich-man; "Where's *Double Dragon II*?" he asked the postman. "Where's the near-

est pub?" we all cried, and left him to it...

Adam's supply

Adam was extremely fed up. "My ST's broken power supply is going to cost £130 to fix!" he complained. "You what?" we asked in disbelief. "My ST power supply is going to cost..." "We heard!" we all cried, and laughed ourselves stupid.

Ollie's accident

Ollie was very fed up. "I played five-a-side last night and got hit by the ball." We sympathised,



● Ollie Alderton, seen shortly before being kicked in the Sports Centre.

and asked him where he got hit. "Down at the sports club," was his predictable reply. "No," we asked patiently, "where on the body did you get hit?" And when he told us we realised why he'd come in with the walking frame.

To the newsagent: Amstrad Action is distributed by COMAG

Dear newsagent,
Please reserve me a copy of the April issue of *Amstrad Action*, due out on Thursday 8th March.

Name:
Address:

Telephone number:
If you're under 16, please get your parent or guardian to sign here:

CD WINNERS!

At last! The moment you've all been waiting for! The winners of the AA Win-a-CD-player competition from AA56.

But first... but first we'd like to say a serious, and a big, big thank you to all those people, without whose dedication, help, and sheer persistence, none of this would have been possible... indeed, I would like to give a special (*shut yer blimmin' neck and gerron wi'it!*)

Oh, er... yes, right. And the winner is... **DANIEL BARKER OF MIDDLESBOROUGH!** You lucky, lucky devil, Daniel. But wait... what about the runners-up? Here we go:

C Fitzgerald of Manchester
Glyn Exshaw of Blackrock, Cork
Daniel Black of Billericay, Essex
Neil Well of Merseyside
A E Carpenter, Birkenhead
Andrew Wood of Brayhouse, W Yorks
Phil Richards of Fife
Lindsey Punchard of Ashford, Kent

Don't forget, we're holding back two runners-up prizes for all our overseas readers who don't get their copies of AA until the Outer Mongolian Customs men have finished reading them...

Meanwhile, the list of winners is going off to Codemasters just as soon as we can stick a stamp on the envelope. (*Trenton, lend us 20p for a stamp will you?*)

● Ah yes, and thanks to Jerry "Uncle Techtip" Glenwright and Tim "PCW" Smith for cover inspiration, and to The Kobal Collection for providing the piccie.

SD MICROSYSTEMS

GENERAL LEDGER 6128£29.95

Simplified book-keeping system for small firms/clubs or self-employed. Handles Receipts, Payments, VAT plus monthly standing orders & Bank/Cash. Produces useful reports including Profit/Loss A/C and Trial Balance.

STOCK ACCOUNTING£39.95

Integrated Stock Control/Invoicing package for the CPC 6128. Produces invoices from a built-in price list with up to 750 items on line!

QUALITY DISCS: 10 x 3" C52 £22.50 10 x 3.5" DSDD £7.50. Cheques/POs or SAE for our full CPC catalogue to (state computer/printer):

PAGE PUBLISHER£24.95

An affordable and easy-to-use DTP package for all 128k CPC's! Ideal for creating letterheads, logos, posters and all types of leaflet etc. Several styles/sizes of text with word-wrap and justification. Multiple columns. Powerful drawing/design commands by Joystick/Keyboard. A4 and A5 print formats on Epson compatibles with Quad-density graphics. NEW! 'EXTRAS' disc with more fonts/clip art £10. Both for £29.95!

HOME EXECUTIVE SUITE£19.95

Personal Accounts, Card Filer, Shopper, Diary/Calendar page makers. Prints on A4 or continuous organiser stationery (£8.95/pack)

ADVERTISERS INDEX

1st Choice	79	MJC Supplies	34
Amstrad User Club	6	Mode One	76
ARC Education	76	Nemesis	27
Arnor	20	Ocean	IFC, 3, 15, OBC
Astrocalc	32	Premier Mail Order	76
Boxoft	76	Rickitt Educational Media	56
Caspell Computers	20	Romantic Robot	33
Cognito	38	School Software	56
Datel Electronics	82, IBC	S D Microsystems	78
Elsa	49	Siren Software	27
Glenco Software	44	Smogware	56
Goldmark Systems	44	Soft Exchange	32
Intraset	44	Software City	46
K & M Computers	73	Star Software	38
Lerm Software	76	Strategy Software	32
Matrix	56	Turbosoft	66
Mega Mix	56	US Gold	53
Microsnips	38	Wacci UK	10
Microstyle	33	WAVE	32
Mindscape	51		



SD MICROSYSTEMS, (DEPT AA),
P.O. BOX 24, HITCHIN HERTS.
0462 422897



25%

1st Choice for fast friendly service

or more off all non-budget software RRP

EDUCATION

	Tape	Disc
Answer Back Quiz (6-11)	7.45	10.45
Fact Files for above		
20th Cent. Hist. (12+)	3.70	6.70
Arithmetic (6-11)	3.70	6.70
Ass. Football (12+)	3.70	6.70
English Words (12+)	3.70	6.70
Gen. Knowledge (12+)	3.70	6.70
Gen. Science (14+)	3.70	6.70
Know England (12+)	3.70	6.70
Know Scotland (12+)	3.70	6.70
Nat. History (10+)	3.70	6.70
Spelling (6-11)	3.70	6.70
Sport (14+)	3.70	6.70
Super Sport (14+)	3.70	6.70
World Geography (11+)	3.70	6.70
Better Maths (12-16)	8.20	12.70
Better Spelling (9-14)	8.20	12.70
Biology (12-16)	8.20	12.70
Chemistry (12-16)	8.20	12.70
Chemistry GCSE	10.95	14.95
French Mistress (A+B)	12.70	14.95
Fun School (2-5)	4.45	6.70
Fun School (5-8)	4.45	6.70
Fun School (8-12)	4.45	6.70
Fun School 2 (Under 6)	7.45	9.70
Fun School 2 (6-8)	7.45	9.70
Fun School 2 (Over 8)	7.45	9.70
Geog. Map Quiz (9+)	8.20	12.70
German Master (A+B)	12.70	14.95
Giant Killer	-	10.95
Happy Letters (3-6)	7.45	10.95
Happy Numbers (3-5)	7.45	10.95
Happy Writing (3-6)	7.45	10.95
Magic Maths (4-8)	8.20	12.70
Map Rally (7-13)	7.45	10.95
Maths Mania (8-12)	8.20	12.70
Maxi Maths (9-14)	8.20	12.70
Micro English	17.95	17.95
Micro Maths	17.95	17.95
Physics (12-16)	8.20	12.70
Physics GCSE	10.95	14.95
Primary Maths	17.95	17.95
The Three Bears	-	12.70
Timeman One (4-9)	7.45	10.95
Timeman Two (4-10)	7.45	10.95
Weather/Climate (12+)	8.20	12.70
Word Hang (5+)	7.45	10.95
World Wise (7+)	7.45	10.95

LEISURE & SPORT

	Tape	Disc
3D Pool	7.45	10.95
Australian Rules Football	7.45	10.95
Cluedo	7.45	10.95
Colossus Bridge	8.95	10.95
Colossus Chess 4	7.45	10.95
Cricket Master	6.70	-
E. Hughes Int. Soccer	7.45	10.95
Football Manager 2	7.45	10.95
Footballer of the Year 2	-	10.95
Game Set and Match 2	9.70	13.45
Jack Nicklaus Golf	7.45	12.70
Kenny Dalglish	7.45	-
Kick Off	7.45	10.95
Liverpool	7.45	10.95
Match Day 2	6.70	10.95
Monopoly	7.45	10.95
Passing Shot	7.45	10.95
Picture	10.45	14.95
Saint & Greavie	7.45	10.95
Scalextric	7.45	10.95
Scrabble	7.45	10.95
Scrapes	7.45	10.95
Sporting Triangles	7.45	10.95
Supreme Chal. Soccer	9.70	12.70
Tracksuit Manager	7.45	-
Treble Champions	7.45	10.45
Trivia	5.20	-
Triv. Pursuit Genius	10.95	14.95

BUSINESS

Tape Disc

Mastercalc 128 (6128)	-	24.70
Masterfile 3	-	29.95
Matrix Spreadsheet		34.95
Mini Office (Budget)	2.99	4.99
Money Master	26.20	26.20
Promerge	-	18.70
Protext	14.95	19.95
Tasman Products, see Special Offers		
ARCADE		
100% Dynamite	10.95	-
Action Fighter	7.45	10.95
After the war	7.45	10.95
Altered Beast	7.45	10.95
Barbarian 2	7.45	10.95
Batman The Movie	7.45	10.95
Beverly Hills Cop	7.45	10.95
Chase HQ	7.45	10.95
Chuck Yeager's AFT	6.70	10.95
Coin Op Hits	10.95	14.95
Continental Circus	7.45	10.95
Crazy Cars 2	7.45	10.95
Cyberball	7.45	9.70
Double Dragon	7.45	10.95
Double Dragon 2	7.45	10.95
Dr Doom's Revenge	7.45	10.95
Dragon Ninja	7.45	10.95
Dragon Spirit	7.45	10.95
Dynamite Dux	7.45	10.95
Epyx Action	10.95	14.95
F15 Strike Eagle	7.45	10.95
Fiendish Freddy	7.45	10.95
Galaxy Force	7.45	10.95
Garfield's Winters Tail	7.45	10.95
Gemini Wing	7.45	10.95
Ghostbusters 2	7.45	10.95
Ghouls & Ghosts	7.45	10.95
Giants	9.70	14.95
Grand Prix Master	7.45	10.95
Hard Drivin	7.45	10.95
Ivanhoe	7.45	10.95
Knight Force	7.45	10.95
Konami Arcade Coll.	7.45	13.45
Lazer Squad	7.45	10.95
Licence To Kill	7.45	10.95
Mega Mix	10.95	-
Moonwalker	7.45	10.95
Mr Heli	7.45	10.95
Myth	7.45	10.95
New Zealand Story	7.45	10.95
Ninja Warriors	7.45	10.95
Operation Thunderbolt	7.45	10.95
Operation Wolf	7.45	10.95
P-47 Thunderbolt	7.45	10.95
Pacland	7.45	10.95
Pacmania	6.70	10.95
Pinball Magic	7.45	10.95
Pipe Mania	7.45	10.95
Power Drift	7.45	10.95
Purple Saturn Day	10.95	14.95
Rainbow Islands	7.45	10.95
Real Ghostbusters	7.45	10.95
Rick Dangerous	7.45	10.95
Robocop	7.45	10.95
Run The Gauntlet	7.45	10.95
Shinobi	7.45	10.95
Skweek	7.45	10.95
Space Harrier 2	7.45	10.95
Star Wars Trilogy	9.70	14.95
Strider	7.45	10.95
Super Wonderboy	7.45	10.95
Supreme Chal. (Elite etc)	9.70	12.70
Taito Coin Op. Hits	9.70	-
Time and Magik		
Titles		
Winners	9.70	14.95
Xenon	7.45	10.95
Xenophobe	7.45	10.95

BUDGET

Tape Disc

Choice Cheats 1	2.99	4.99
Choice Cheats 2	2.99	4.99
Choice Cheats 3	2.99	4.99
1943	2.99	
Arcade Flight Sim.	2.99	
Arkanoid	2.99	
Assault Course	2.99	
Bards Tale 1	2.99	
Batman (3D)	2.99	
Big Foot	2.99	
Buggy Boy	2.99	
Count Duckula	2.99	
Crazy Cars	2.99	
Cricket Captain	2.99	
Cybernoid	2.99	
Dizzy	2.99	
Fantasy World Dizzy	2.99	
Flintstones	2.99	
Fruit Machine Sim.	2.99	
Ghosts N Goblins	2.99	
Joe Blade 3	2.99	
Knight Games	2.99	
Little Puff	2.99	
Lost Caves	2.99	
Masters of the Universe	2.99	
Miami Vice	2.99	
Mig 29	2.99	
Mini Office	2.99	4.99
Monte Carlo Casino	2.99	
Operation Gunship	2.99	
Paper Boy	2.99	
Pegasus	2.99	6.99
Peter Beardsley Football	2.99	
Ping Pong	2.99	
Platoon	2.99	
Postman Pat 2	2.99	
Pro Tennis Sim.	2.99	
Pub Trivia	2.99	
Punch & Judy	2.99	
Rampage	2.99	
Renegade	2.99	
Samurai Trilogy	2.99	
Short Circuit	2.99	
Sooty & Sweep	2.99	
Space Harrier	2.99	
Spy Vs Spy 2	2.99	
Star Dust	2.99	
Strip Poker 2	2.99	
Super Sprint	2.99	
Super Tank	2.99	
Thundercats	2.99	
Treasure Island Dizzy	2.99	
War Machine	2.99	
Wizard Willy	2.99	
World Class Leaderboard	2.99	
Air Wolf	1.99	
Air Wolf 2	1.99	
Battleships	1.99	
Bomb Jack	1.99	
Bomb Jack 2	1.99	
Cricket Inter.	1.99	
Critical Mass	1.99	
Danger Mouse - Trouble	1.99	
Danger Mouse - Whoopee	1.99	
Flying Shark	1.99	
Ghostbusters	1.99	
G. Gooch Match Cricket	1.99	
Gun Boat	1.99	
Joe Blade 2	1.99	
Master Chess	1.99	
Pool	1.99	
Popeye	1.99	
Postman Pat	1.99	
Scooby Doo	1.99	
Sigma 7	1.99	
Steve Davis Snooker	1.99	
Storm Warrior	1.99	
Super Nudge 2000	1.99	
Yabba Dabba Doo	1.99	
Yogi Bear	1.99	

ADVENTURE

Bards Tale 1	2.99	6.99
Lancelot	10.95	14.95
Scapeghost	10.95	14.95
Time and Magik	-	10.95
Times of Lore	7.45	10.95
Tolkien Trilogy	9.70	13.45
Total Eclipse	7.45	10.95

SPECIAL OFFERS

SPRING SPECIAL

Low prices on Tasman products
CASSETTES DISCS DISCS

Tascopy 10.45 Tascopy 10.45 Tasspell 13.95
Tasprint 10.45 Tasprint 10.45 Tasword6128 19.95
Tasword 16.95 Tasprint 10.45 Tasword6128 19.95
Tassign 19.95

Offer ends 31st March 1990

SEE US AT GMEX

Computer Cash'n'Carry

15-18 March

BUDGET BARGAIN

Save over a £1

3 @ £1.99 only

2 @ £2.99 £4.95

RIBBON REFRESH

Printer Ribbon Restorer Only £7.95

CHEAT £4.99

Tape £2.99

CHEAT £4.99

Blanks DISCS

Maxell CF2 3" discs £2.50 each

£11.95 for 5

£23.50 for 10

Name

Address

Postcode

Total price

Title

Phone 0706 72728

All prices are inclusive of VAT and P & P in the UK

1st Choice Software Ltd
Dept AA4
4 Paul Row, Temple Lane
Littleborough, Lancs. OL15 9QG

1st Choice Software Ltd
Dept AA4
4 Paul Row, Temple Lane
Littleborough, Lancs. OL15 9QG

1st Choice Software Ltd
Dept AA4
4 Paul Row, Temple Lane
Littleborough, Lancs. OL15 9QG

1st Choice Software Ltd
Dept AA4
4 Paul Row, Temple Lane
Littleborough, Lancs. OL15 9QG

1st Choice Software Ltd
Dept AA4
4 Paul Row, Temple Lane
Littleborough, Lancs. OL15 9QG

1st Choice Software Ltd
Dept AA4
4 Paul Row, Temple Lane
Littleborough, Lancs. OL15 9QG

1st Choice Software Ltd
Dept AA4
4 Paul Row, Temple Lane
Littleborough, Lancs. OL15 9QG

1st Choice Software Ltd
Dept AA4
4 Paul Row, Temple Lane
Littleborough, Lancs. OL15 9QG

1st Choice Software Ltd
Dept AA4
4 Paul Row, Temple Lane
Littleborough, Lancs. OL15 9QG

1st Choice Software Ltd
Dept AA4
4 Paul Row, Temple Lane
Littleborough, Lancs. OL15 9QG

1st Choice Software Ltd
Dept AA4
4 Paul Row, Temple Lane
Littleborough, Lancs. OL15 9QG

1st Choice Software Ltd
Dept AA4
4 Paul Row, Temple Lane
Littleborough, Lancs. OL15 9QG

1st Choice Software Ltd
Dept AA4
4 Paul Row, Temple Lane
Littleborough, Lancs. OL15 9QG

1st Choice Software Ltd
Dept AA4
4 Paul Row, Temple Lane
Littleborough, Lancs. OL15 9QG

1st Choice Software Ltd
Dept AA4
4 Paul Row, Temple Lane
Littleborough, Lancs. OL15 9QG

1st Choice Software Ltd
Dept AA4
4 Paul Row, Temple Lane
Littleborough, Lancs. OL15

AMSTERDAM ACTION

HOW TO ORDER... JUST
MAKE A NOTE OF THE
PRODUCT NAME AND
ORDER NUMBER AND FILL
IN THE ORDER FORM
OPPOSITE OR RING OUR
HOTLINE NUMBER
ON 0458 74011

THE LATEST AND GREATEST PRODUCTS AT THE BEST POSSIBLE PRICE

PRICES INCLUDE
POSTAGE, PACKING
AND VAT

NO HIDDEN EXTRAS

1 An interesting read for would-be hackers

2 An excellent upgrade from the joystick

3 A brilliant integrated package

4 Superb graphics for your CPC

5 Big Top of Fun

6 Plant your world with a rainbow

7 Football maniacs, this is THE classic!

8 An epic adventure

9 An essential piece of summer clothing for AA loyalists!

10 Ed

11 SOCI

12 SOCI

13 SOCI

14 SOCI

15 SOCI

16 SOCI

17 SOCI

18 SOCI

19 SOCI

20 SOCI

21 SOCI

22 SOCI

23 SOCI

24 SOCI

25 SOCI

26 SOCI

27 SOCI

28 SOCI

29 SOCI

30 SOCI

31 SOCI

32 SOCI

33 SOCI

34 SOCI

35 SOCI

36 SOCI

37 SOCI

38 SOCI

39 SOCI

40 SOCI

41 SOCI

42 SOCI

43 SOCI

44 SOCI

45 SOCI

46 SOCI

47 SOCI

48 SOCI

49 SOCI

50 SOCI

51 SOCI

52 SOCI

53 SOCI

54 SOCI

55 SOCI

56 SOCI

57 SOCI

58 SOCI

59 SOCI

60 SOCI

61 SOCI

62 SOCI

63 SOCI

64 SOCI

65 SOCI

66 SOCI

67 SOCI

68 SOCI

69 SOCI

70 SOCI

71 SOCI

72 SOCI

73 SOCI

74 SOCI

75 SOCI

76 SOCI

77 SOCI

78 SOCI

79 SOCI

80 SOCI

81 SOCI

82 SOCI

83 SOCI

84 SOCI

85 SOCI

86 SOCI

87 SOCI

88 SOCI

89 SOCI

90 SOCI

91 SOCI

92 SOCI

93 SOCI

94 SOCI

95 SOCI

96 SOCI

97 SOCI

98 SOCI

99 SOCI

100 SOCI

101 SOCI

102 SOCI

103 SOCI

104 SOCI

105 SOCI

106 SOCI

107 SOCI

108 SOCI

109 SOCI

110 SOCI

111 SOCI

112 SOCI

113 SOCI

114 SOCI

115 SOCI

116 SOCI

117 SOCI

118 SOCI

119 SOCI

120 SOCI

121 SOCI

122 SOCI

123 SOCI

124 SOCI

125 SOCI

126 SOCI

127 SOCI

128 SOCI

129 SOCI

130 SOCI

131 SOCI

132 SOCI

133 SOCI

134 SOCI

135 SOCI

136 SOCI

137 SOCI

138 SOCI

139 SOCI

140 SOCI

141 SOCI

142 SOCI

143 SOCI

144 SOCI

145 SOCI

146 SOCI

147 SOCI

148 SOCI

149 SOCI

150 SOCI

151 SOCI

152 SOCI

153 SOCI

154 SOCI

155 SOCI

156 SOCI

157 SOCI

158 SOCI

159 SOCI

160 SOCI

161 SOCI

162 SOCI

163 SOCI

164 SOCI

165 SOCI

166 SOCI

167 SOCI

168 SOCI

169 SOCI

170 SOCI

171 SOCI

172 SOCI

173 SOCI

174 SOCI

175 SOCI

176 SOCI

177 SOCI

178 SOCI

179 SOCI

180 SOCI

181 SOCI

182 SOCI

183 SOCI

184 SOCI

185 SOCI

186 SOCI

187 SOCI

188 SOCI

189 SOCI

190 SOCI

191 SOCI

192 SOCI

193 SOCI

194 SOCI

195 SOCI

196 SOCI

197 SOCI

198 SOCI

199 SOCI

200 SOCI

201 SOCI

202 SOCI

203 SOCI

204 SOCI

205 SOCI

206 SOCI

207 SOCI

208 SOCI

209 SOCI

210 SOCI

211 SOCI

212 SOCI

213 SOCI

214 SOCI

215 SOCI

216 SOCI

217 SOCI

218 SOCI

219 SOCI

220 SOCI

221 SOCI

222 SOCI

223 SOCI

224 SOCI

225 SOCI

226 SOCI

227 SOCI

228 SOCI

229 SOCI

230 SOCI

231 SOCI

232 SOCI

233 SOCI

234 SOCI

235 SOCI

236 SOCI

237 SOCI

238 SOCI

239 SOCI

240 SOCI

241 SOCI

242 SOCI

243 SOCI

244 SOCI

245 SOCI

246 SOCI

247 SOCI

248 SOCI

249 SOCI

250 SOCI

251 SOCI

252 SOCI

253 SOCI

254 SOCI

255 SOCI

256 SOCI

257 SOCI

258 SOCI

259 SOCI

260 SOCI

261 SOCI

262 SOCI

263 SOCI

264 SOCI

265 SOCI

266 SOCI

267 SOCI

268 SOCI

269 SOCI

270 SOCI

271 SOCI

272 SOCI

273 SOCI

274 SOCI

275 SOCI

276 SOCI

277 SOCI

278 SOCI

279 SOCI

280 SOCI

281 SOCI

282 SOCI

283 SOCI

284 SOCI

285 SOCI

286 SOCI

287 SOCI

288 SOCI

289 SOCI

290 SOCI

291 SOCI

292 SOCI

293 SOCI

294 SOCI

295 SOCI

296 SOCI

297 SOCI

298 SOCI

299 SOCI

300 SOCI

301 SOCI

302 SOCI

303 SOCI

304 SOCI

305 SOCI

306 SOCI

307 SOCI

308 SOCI

309 SOCI

310 SOCI

311 SOCI

312 SOCI

313 SOCI

314 SOCI

315 SOCI

316 SOCI

317 SOCI

318 SOCI

319 SOCI

320 SOCI

321 SOCI

322 SOCI

323 SOCI

324 SOCI

325 SOCI

326 SOCI

327 SOCI

328 SOCI

329 SOCI

330 SOCI

331 SOCI

332 SOCI

333 SOCI

334 SOCI

335 SOCI

336 SOCI

337 SOCI

338 SOCI

339 SOCI

340 SOCI

341 SOCI

342 SOCI

343 SOCI

344 SOCI

345 SOCI

346 SOCI

347 SOCI

348 SOCI

349 SOCI

350 SOCI

351 SOCI

352 SOCI

353 SOCI

354 SOCI

355 SOCI

356 SOCI

357 SOCI

358 SOCI

359 SOCI

360 SOCI

361 SOCI

362 SOCI

363 SOCI

364 SOCI

365 SOCI

366 SOCI

367 SOCI

368 SOCI

369 SOCI

370 SOCI

371 SOCI

372 SOCI

373 SOCI

374 SOCI

375 SOCI

376 SOCI

377 SOCI

378 SOCI

379 SOCI

380 SOCI

381 SOCI

382 SOCI

383 SOCI

384 SOCI

385 SOCI

386 SOCI

387 SOCI

388 SOCI

389 SOCI

390 SOCI

391 SOCI

392 SOCI

393 SOCI

394 SOCI

395 SOCI

396 SOCI

397 SOCI

398 SOCI

399 SOCI

400 SOCI

401 SOCI

402 SOCI

403 SOCI

404 SOCI

405 SOCI

406 SOCI

407 SOCI

408 SOCI

409 SOCI

410 SOCI

411 SOCI

412 SOCI

413 SOCI

414 SOCI

415 SOCI

416 SOCI

417 SOCI

418 SOCI

419 SOCI

420 SOCI

421 SOCI

422 SOCI

423 SOCI

424 SOCI

425 SOCI

426 SOCI

427 SOCI

428 SOCI

429 SOCI

430 SOCI

431 SOCI

432 SOCI

433 SOCI

434 SOCI

435 SOCI

436 SOCI

437 SOCI

438 SOCI

439 SOCI

440 SOCI

441 SOCI

442 SOCI

443 SOCI

444 SOCI

445 SOCI

446 SOCI

447 SOCI

448 SOCI

449 SOCI

450 SOCI

451 SOCI

452 SOCI

453 SOCI

454 SOCI

455 SOCI

456 SOCI

457 SOCI

458 SOCI

459 SOCI

460 SOCI

461 SOCI

462 SOCI

463 SOCI

464 SOCI

465 SOCI

466 SOCI

467 SOCI

468 SOCI

469 SOCI

470 SOCI

471 SOCI

472 SOCI

473 SOCI

474 SOCI

475 SOCI

476 SOCI

477 SOCI

478 SOCI

479 SOCI

480 SOCI

481 SOCI

482 SOCI

483 SOCI

484 SOCI

485 SOCI

486 SOCI

487 SOCI

488 SOCI

489 SOCI

490 SOCI

491 SOCI

492 SOCI

493 SOCI

494 SOCI

495 SOCI

496 SOCI

497 SOCI

498 SOCI

499 SOCI

500 SOCI

501 SOCI

502 SOCI

503 SOCI

504 SOCI

505 SOCI

506 SOCI

507 SOCI

508 SOCI

509 SOCI

510 SOCI

511 SOCI

512 SOCI

513 SOCI

514 SOCI

515 SOCI

516 SOCI

517 SOCI

518 SOCI

519 SOCI

520 SOCI

521 SOCI

522 SOCI

523 SOCI

524 SOCI

525 SOCI

526 SOCI

527 SOCI

528 SOCI

529 SOCI

530 SOCI

531 SOCI

532 SOCI

533 SOCI

534 SOCI

535 SOCI

536 SOCI

537 SOCI

538 SOCI

539 SOCI

540 SOCI

541 SOCI

542 SOCI

543 SOCI

544 SOCI

545 SOCI

546 SOCI

547 SOCI

548 SOCI

549 SOCI

550 SOCI

551 SOCI

552 SOCI

553 SOCI

554 SOCI

555 SOCI

556 SOCI

557 SOCI

558 SOCI

559 SOCI

560 SOCI

561 SOCI

562 SOCI

563 SOCI

564 SOCI

565 SOCI

566 SOCI

567 SOCI

568 SOCI

569 SOCI

570 SOCI

571 SOCI

572 SOCI

573 SOCI

574 SOCI

575 SOCI

576 SOCI

577 SOCI

578 SOCI

579 SOCI

580 SOCI

581 SOCI

582 SOCI

583 SOCI

584 SOCI

585 SOCI

586 SOCI

587 SOCI

588 SOCI

589 SOCI

590 SOCI

591 SOCI

592 SOCI

593 SOCI

594 SOCI

595 SOCI

596 SOCI

597 SOCI

598 SOCI

599 SOCI

600 SOCI

601 SOCI

602 SOCI

603 SOCI

604 SOCI

605 SOCI

606 SOCI

607 SOCI

608 SOCI

609 SOCI

610 SOCI

611 SOCI

612 SOCI

613 SOCI

614 SOCI

615 SOCI

616 SOCI

617 SOCI

618 SOCI

619 SOCI

620 SOCI

621 SOCI

622 SOCI

623 SOCI

624 SOCI

625 SOCI

626 SOCI

627 SOCI

628 SOCI

629 SOCI

630 SOCI

631 SOCI

632 SOCI

633 SOCI

634 SOCI

635 SOCI

636 SOCI

637 SOCI

638 SOCI

639 SOCI

640 SOCI

641 SOCI

642 SOCI

643 SOCI

644 SOCI

645 SOCI

646 SOCI

647 SOCI

648 SOCI

649 SOCI

650 SOCI

651 SOCI

652 SOCI

653 SOCI

654 SOCI

655 SOCI

656 SOCI

657 SOCI

658 SOCI

659 SOCI

660 SOCI

661 SOCI

662 SOCI

663 SOCI

664 SOCI

665 SOCI

666 SOCI

667 SOCI

668 SOCI

669 SOCI

670 SOCI

671 SOCI

672 SOCI

673 SOCI

674 SOCI

675 SOCI

676 SOCI

677 SOCI

678 SOCI

679 SOCI

680 SOCI

681 SOCI

682 SOCI

683 SOCI

684 SOCI

685 SOCI

686 SOCI

687 SOCI

688 SOCI

689 SOCI

690 SOCI

691 SOCI

692 SOCI

693 SOCI

694 SOCI

695 SOCI

696 SOCI

697 SOCI

698 SOCI

699 SOCI

700 SOCI

701 SOCI

702 SOCI

703 SOCI

704 SOCI

705 SOCI

706 SOCI

707 SOCI

708 SOCI

709 SOCI

710 SOCI

711 SOCI

712 SOCI

713 SOCI

714 SOCI

715 SOCI

716 SOCI

717 SOCI

718 SOCI

719 SOCI

720 SOCI

721 SOCI

722 SOCI

723 SOCI

724 SOCI

725 SOCI

726 SOCI

727 SOCI

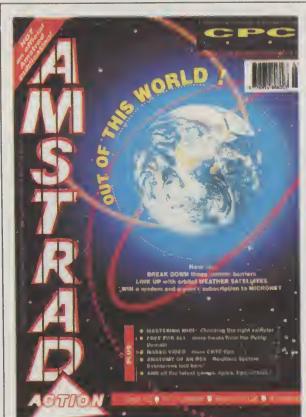
728 SOCI

729 SOCI

730 SOCI

731 SOCI

<p



BACK ISSUES

Want to complete your collection of the ultimate CPC magazine? Why not buy the following issues, complete with their cover disks for the same price as newsstand, we pay the postage!

BUY ANY FIVE FOR ONLY £5!

ISSUE	PRICE	ORDER NO
ISSUE 23	£1.25	AA23
ISSUE 24	£1.25	AA24
ISSUE 29	£1.25	AA29
ISSUE 36	£1.25	AA36
ISSUE 41	£1.25	AA41
ISSUE 42	£1.25	AA42
ISSUE 44	£1.25	AA44
ISSUE 45	£1.25	AA45
ISSUE 46	£1.45	AA46
ISSUE 47	£1.45	AA47
ISSUE 48	£1.45	AA48
ISSUE 49	£1.45	AA49
ISSUE 50	£1.45	AA50
ISSUE 51	£1.45	AA51
ISSUE 52	£1.45	AA52
ISSUE 53	£1.45	AA53
ISSUE 54	£1.45	AA54



Be sure your AA's stay safe and clean

AMSTRAD ACTION MAIL ORDER

Name _____

Address _____

Postcode _____

Phone number _____

Method of payment (please circle) Access • Visa • Cheque • PO

INVALUABLE

Description	Price	Order No
Hackers Book	£9.95	AA616

SAVE £7

Description	Price	Order No
Light Phaser	£27.95	AA607AC

Light Phaser Cass £27.95 AA607AD

SAVE UP TO £6

Description	Price	Order No
Mini Office 2 Cass	£9.95	AA608AC

Mini Office 2 Disk	£13.95	AA608AD
--------------------	--------	---------

SAVE UP TO £8

Description	Price	Order No
Image System Cass	£13.95	AA609AC

Image System Disk	£16.95	AA609AD
-------------------	--------	---------

Description	Price	Order No
F. Freddy Cass	£6.99	AA531AC

F. Freddy Disk	£9.99	AA531AD
----------------	-------	---------

Description	Price	Order No
R. Islands Cass	£6.99	AA532AC

R. Islands Disk	£9.99	AA532AD
-----------------	-------	---------

Description	Price	Order No
Kick Off Cass	£6.95	AA533AC

Kick Off Disk	£9.95	AA533AD
---------------	-------	---------

Description	Price	Order No
Myth Cass	£7.99	AA534AC

Description	Price	Order No
Myth Disk	£10.99	AA534AD

SAVE UP TO £4

Description	Price	Order No
The Biz Cass	£6.99	AA535AC

Description	Price	Order No
Teddy Bear Cass	£6.95	AA292AC

Teddy Bear Disk	£8.95	AA292AD
-----------------	-------	---------

Frog Cass	£6.95	AA293AC
-----------	-------	---------

Frog Disk	£8.95	AA293AD
-----------	-------	---------

Robot Cass	£6.95	AA294AC
------------	-------	---------

Robot Disk	£8.95	AA294AD
------------	-------	---------

GREAT VALUE - SAVE £3

Description	Price	Order No
The Biz Cass	£6.99	AA535AC

Teddy Bear Cass	£6.95	AA292AC
-----------------	-------	---------

Teddy Bear Disk	£8.95	AA292AD
-----------------	-------	---------

Frog Cass	£6.95	AA293AC
-----------	-------	---------

Frog Disk	£8.95	AA293AD
-----------	-------	---------

Robot Cass	£6.95	AA294AC
------------	-------	---------

Robot Disk	£8.95	AA294AD
------------	-------	---------

Description	Price	Order No
AA Binder	£5.99	AA417R

One Binder	£5.99	AA417R
------------	-------	--------

Two Binders	£9.00	AA4172R
-------------	-------	---------

Med T-Shirt	£4.99	AA361R
-------------	-------	--------

XL T-Shirt	£4.99	AA362R
------------	-------	--------

For overseas orders call Clare for prices on 0458 74011	
---	--

SEND THIS FORM TO: Clare Bates, Amstrad Action, The Old Barn, Freepost, Somerton, TA11 7PY

No stamp required if posted in the UK, Channel Islands or the Isle of Man

AMSTRAD ACTION MAIL ORDER	
Name _____	
Address _____ _____ _____	
Postcode _____	
Phone number _____	
Method of payment (please circle)	Access • Visa • Cheque • PO
Credit Card No _____	TOTAL ORDER _____
Expiry date _____	Please make all cheques payable to Future Publishing Limited

DATTEL ELECTRONICS

dktronics

dktronics 256K MEMORY

dktronics 64K MEMORY

MORE
MEMORY
POWER

dktronics

dktronics 256K MEMORY

64K AND 256K MEMORY EXPANSION

- Simple plug in memory expansion gives instant extra memory.
- Features bank switching software for easy use by the programmer or for use as a data storage area.
- The software also features some extra BASIC commands.
- 64K unit expands 464 to 128K. The 256K unit takes your 6128 to a massive 320K!!

- 64K unit brings 464 up to CPC 6128 memory configuration making a much larger software base available. Will work straight off with many programs designed for this unit (including OCP Art Studio - see Ad.).
- Ideal for use with the CPM 2.2 etc.
- All bank switching done automatically by supplied software (cassette 464 - disk 6128).

THE TOTAL SOLUTION TO YOUR
MEMORY EXPANSION NEEDS!!

ONLY £49.99

64K FOR 464

ONLY £99.99

256K FOR 464 OR 6128
(PLEASE STATE)

MIDI
COMPATIBLE



FREE
MICROPHONE AND
HEADPHONES!

SPEECH SYNTHESISER & STEREO SOUND BOOSTER

NEW
LOW
PRICE



dktronics

This easy to use Speech Synthesiser includes a powerful Stereo Amplifier and two Pod Speakers which are an enormous improvement on the sound supplied by the internal mono speaker.

Speech output is monaural but directed to both speakers. Booster gives stereo to computer internal sound output.

- Using the SPO/256 Speech Chip the unit has an almost infinite vocabulary.
- Text to speech software is provided in ROM to make speech output simplicity itself.
- Voicing is transparent to the user and the computer can carry on with other program tasks.

ONLY £29.99

464 or 6128 (Please state which)

music machine

The RAM Music Machine is probably the most exciting music add-on available for any computer.

- It's a full sound sampling system allowing any sound to be recorded digitally into computer RAM. Once stored the sound can be replayed at different pitches with many varying effects.
- It's an echo chamber & digital delay line.
- Various sampled sounds are provided to get you going.
- The Music Machine can be used as a drum machine - eight drum sounds are provided, but you can easily produce more of your own.
- The powerful software allows you to compose tunes from individual bars of music. You can edit on screen & Save/Load sounds, instruments & rhythms.
- The Ram Music Machine supports full MIDI In, MIDI Out & MIDI Thru.
- Output through your Hi-Fi or Headphones. Comes complete with Microphone.
- Use a full size MIDI keyboard to play the Music Machine.
- Sounds produced by the Music Machine can be mixed with a MIDI Synthesiser's own sounds.
- On screen Sound Editor can produce MIDI data from your own compositions.
- No other product can offer so much in one unit - it's the total solution!!

ONLY £49.99 (Cassette)

ADD £5 IF DISK REQUIRED



LIGHTPEN/GRAFICS SYSTEM

- Complete Lightpen and graphics system lets you create a whole range of effects on screen.
- It can magnify, shrink, colour fill and create circles, rectangles, lines and curves.
- Pictures can be edited at pixel level using a scratch pad which is magnified to full screen.
- Picture storage and retrieval, and a pen calibration feature.

Printer dump utilities for Epson/Amstrad printers supplied (on cassette).

Complete package - no more to buy.

ONLY £14.99

CASSETTE

OR £24.99

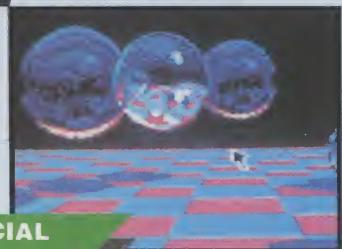
WITH SOFTWARE ON ROM.

NOTHING TO LOAD

464 or 6128 (Please state which)

DATTEL ELECTRONICS

THE ULTIMATE
GRAPHICS
PACKAGE...



SPECIAL
OFFER
PACK!



COMPLETE
WITH

Genius Mouse

▼ Genius Mouse is a high resolution two button mouse featuring optical counting, teflon guides, microswitches, rubber coated ball and high quality interface.

▼ When combined with OCP Advanced Art Studio this graphics package is quite simply the best system available. The features are unmatched...

▼ Create an image - shrink it, expand it, move it, rotate it, copy it, colour it etc., etc.

▼ Spray patterns or shades, make elastic lines - stretch and manipulate shapes.

▼ Zoom in to add detail in fine mode.

▼ Pulldown/Icon driven menus for ease of use.
▼ Mouse operation, plus joystick and keyboard control.
▼ 16 pens, 8 sprays, 16 brushes - so flexible anyone can create superb graphics easily.
▼ Full cut and paste facilities plus excellent printer support.

TAPE OR DISK FOR 464 OR 6128
(PLEASE STATE WHICH REQUIRED)
N.B. 464 NEEDS DK 64K RAM PACK

ADVANCED
ART STUDIO™

ONLY
£49.99

TOTAL PACKAGE
INCLUDES MOUSE,
INTERFACE, ADVANCED
ART STUDIO, MOUSE
MAT AND HOLDER



FREE!

MOUSE MAT AND
MOUSE HOLDER
(WORTH £12.99)
WITH EACH PACKAGE

ONLY WHILE STOCKS LAST

ALL ORDERS NORMALLY DESPATCHED WITHIN 48 HRS

HOW TO ORDER ...

BY PHONE

0782 744707
24hr Credit
Card Line

BY POST

Send cheques/POs made
payable to
"Datel Electronics"

FAX

0782 744292

UK ORDERS POST FREE
EUROPE ADD £1
OVERSEAS ADD £3

PRICES AND SPECIFICATIONS CORRECT AT TIME OF PRESS
AND SUBJECT TO CHANGE WITHOUT NOTICE

CALLERS WELCOME - Please reserve goods by telephone prior to visit.

DATTEL
ELECTRONICS

DATTEL ELECTRONICS LTD., FENTON INDUSTRIAL ESTATE
GOVAN ROAD, FENTON, STOKE-ON-TRENT, ENGLAND.

SALES ONLY
0782 744707

TECHNICAL ONLY
0782 744324



COMPLETE WITH MOUSE INTERFACE

▼ The Genius Mouse Graphics System comes complete with the special Mouse Interface to allow super smooth control.
▼ Attractively styled to match your 464 or 6128 design and colour.
▼ Simply plugs into Expansion/Joystick Port.

A TOTAL GRAPHICS PACKAGE

SAVE OVER
£25

▼ NO OTHER GRAPHICS PACKAGE CAN OFFER
SO MUCH AT SUCH A PRICE!!

▼ OCP ADVANCED ART STUDIO ALONE NORMALLY
RETAILS FOR £25.00. THE MOUSE SYSTEM HAS A
NORMAL PRICE OF £39.99. NOW YOU CAN BUY BOTH
FOR ONLY £49.99 AND GET A MOUSE MAT AND HOLDER
(worth £12.99) ABSOLUTELY FREE.

▼ WE HAVE LIMITED NUMBERS OF THESE PACKS - SO BUY NOW!

WHAT THE MAGAZINES HAD TO SAY...

AMTIX
"CLASSIC"

C.T.W.
"PICK OF THE
WEEK"

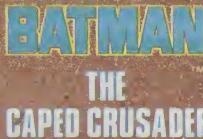
AMSTRAD
COMPUTER USER
"BEST UTILITY
OF THE YEAR"

ALL THESE SPECTACULAR
HITS IN A SPECIAL PACK! IT'S
GOTTA BE...

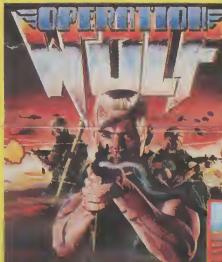


Believe me this is brilliant, a finely-honed arcade adventure which is the best comic licence ever - you'd be batty to miss it.

CRASH SMASH.
TM & © DC COMICS INC. 1988.
ALL RIGHTS RESERVED.



BATMAN
THE
CAPED CRUSADER



What more could anyone ask for in a shoot-em-up. Operation Wolf, simply is The Business. CRASH SMASH.

© TAITO CORP 1988



"THE BIZ"
THE GREATEST
COMPILATION
EVER

ocean

Ocean Software Limited · 6 Central Street · Manchester · M2 5NS · Telephone: 061 832 6633 · Telex: 669977 OCEANS G · Fax: 061 834 0650

SPECTRUM · AMSTRAD
COMMODORE
CASSETTE £14.99
ALSO AVAILABLE ON
COMMODORE DISK £17.99